

# LEICA

*photography*

FALL 1950

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VOL. 3 NO. 11





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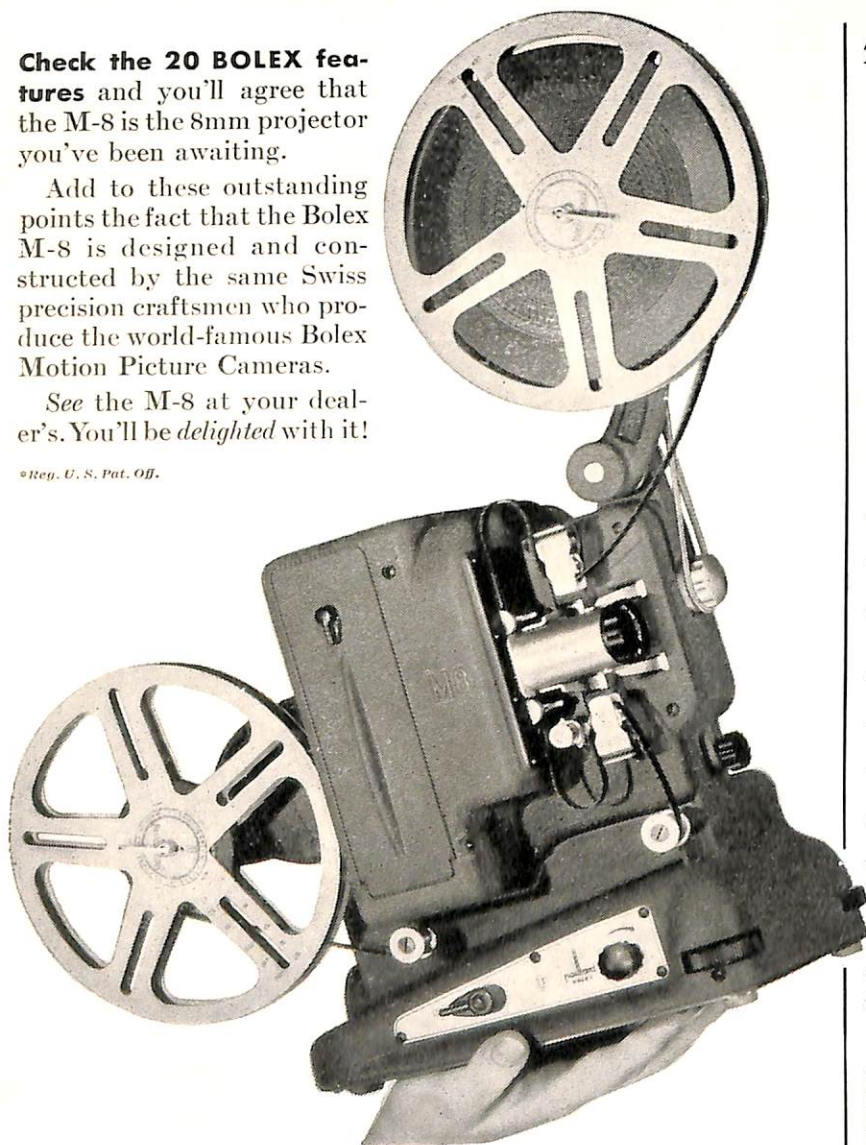
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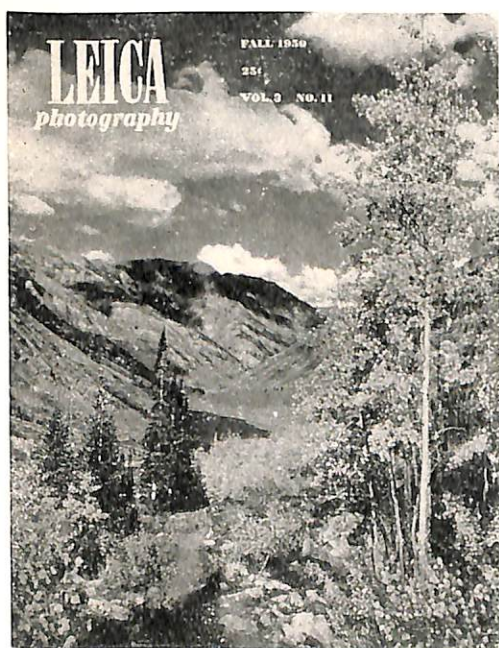
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FALL COLORS . . . Leica Camera color photograph by Hugh Brooks, Upper Montclair, New Jersey. Taken at Maroon Lake, Aspen, Colorado at an elevation of 9700 feet. Made with a Leica IIIA with Summar 50mm. lens; 1/60 second at f/9. Four color plates by Federated Photo Engraving Corp., New York.

EQUIPMENT PHOTOS BY KLEIN BROS., NEW YORK

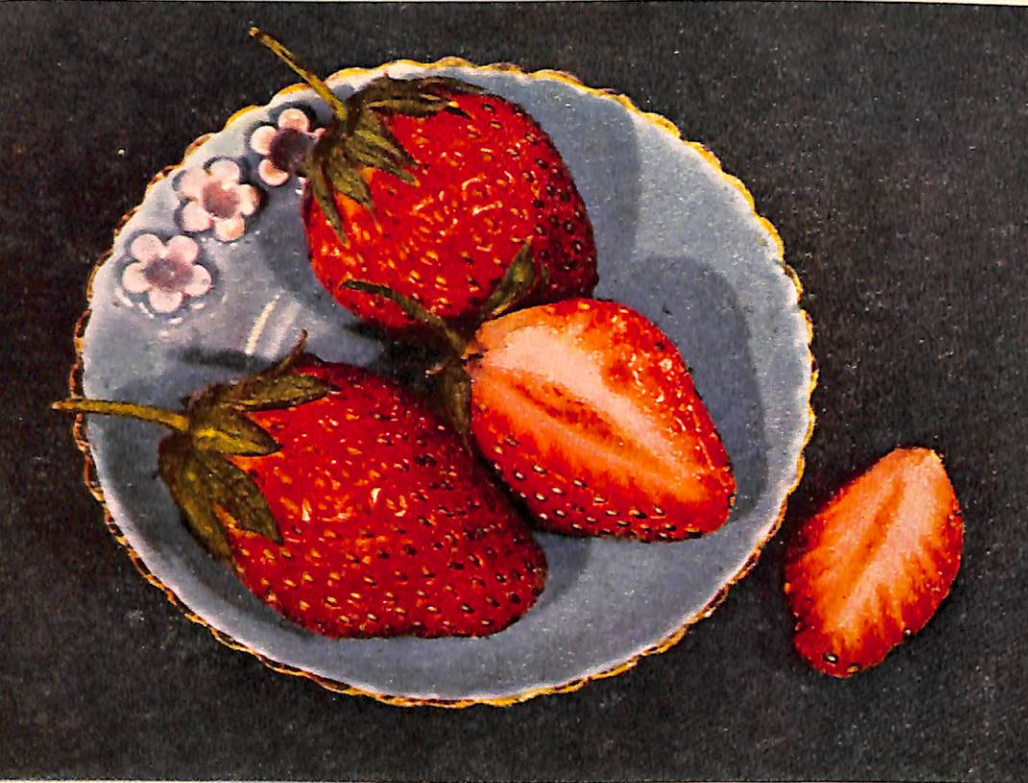
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EDITED BY STANLEY C. SAMUEL





"GIANT STRAWBERRIES". . . Dye transfer prints are made direct from still life indoors, (not from color film).

"FRUIT"

# DIRECT COLOR

by John Amorosia, Brooklyn, N. Y.

Anyone who is able to make good monochrome negatives with the Leica camera can make good still-life color pictures, if he follows these simple instructions, and has the proper equipment, in addition to his Leica.

My outfit consists of a Leica IIb. Summar 50mm., F:2, Hektor 135mm., F:4.5, and Elmar 90mm., F:4 lenses; a 10" cable release, Focalslide, Adjustable Micrometer Extension Tube, two 500-watt bulbs 3200° Kelvin, Sliding Filter Holder, Wratten gelatin filters, ABC Kodak Color Separation Guides (small size) and a sturdy tripod.

When using the Focalslide with the Micrometer Extension Tube, the com-





# SEPARATION NEGATIVES MADE WITH THE LEICA

plete lens assembly is unscrewed from the 90mm., or 135mm., lens. The 90mm. or 135mm. adapter must be used with the tube. Either of these long-focus lenses is to be preferred, as they facilitate convenient working distances between camera, lights and the subject. Also, as you compose the picture, you can see it on the ground glass and place the Kodak gray scale exactly where you want it. However, if you don't have a long-focus lens, you can use your 50mm. here.

A good filter holder for making color separation negatives is the one illustrated. To mount the gelatin filters, take two pieces of thin cardboard and cut out three circular openings; tape one filter in each opening, then bind them together with cellulose tape.

To start making separation negatives with the Leica, first get about fifty or a hundred feet of bulk film. (I use Panatomic X.) Make a test shot of the gray scale to find the correct filter factors. Once you know them, they will be the same for your entire roll of film.

To find the correct filter factors, place the gray scale and color patches on a sheet of newspaper or a sheet of neutral gray paper. Place one light on each side, and take a reading with your exposure meter. The approximate filter factor for the green filter is 8; red filter, 4; blue filter, 20.

On a 36-exposure roll of film, take eleven exposures of each filter. Place a piece of black paper over the lens, and expose the twelfth blank; it will be cut here, after developing. Use a cable release in making the exposures, so that there will be no possible chance of camera movement.

Use a clock with a second-hand for timing; *this is important!* Have your correct exposure in the center of the film. With my set up, I used the following figures to find my correct factors.

- Green filter 8    Expose 2-4-6-8-10-12-14-16-18-20-22 seconds
- Red filter 4    Expose 1-2-3-4-16-14-7-8-9-10-11 seconds
- Blue filter 20    Expose 6-8-10-12-14-16-18-20-22-24-26 seconds

Develop in D76 about twelve minutes at 65°. When the negatives are dry, write down the filters used, in the blank spaces, then cut. You now have three strips of eleven exposures. There should be some correctly-exposed strips, as well as some under-exposed and over-exposed strips. It is now necessary to find the three gray scales that are about equal in density and contrast.

If you have a densitometer, you can take the reading of each gray scale, from the darkest to the lightest step. The density range should be from 1.00 to 1.20, with the darkest step about 1.50, and the lightest not less than .30.

If you don't have a densitometer, an Eastman Densiguide will do. It has a gray scale, and you can match your gray scale to find the three that are almost equal in density range. For example, they may be:

Green Filter	1.50	Red Filter	1.60	Blue Filter	1.65
	.30		.38		.45
	1.80		1.22		1.20

In this example, the density range is almost perfect. But should it be too far off in your experiment, do not hesitate to make a new test giving more or less exposure. *The key to your success is adjusting the exposure as required.*

Another method of bringing the density range into the correct ratio is by matching the gray scales. Hold the scales over an opal diffusing light, select the frame that has a full scale, reverse the other two negatives, and move up or down to bring into the correct ratio. Refer to the exposures given to the matching scale for absolute accuracy; the final reading will be your filter factor ratios.

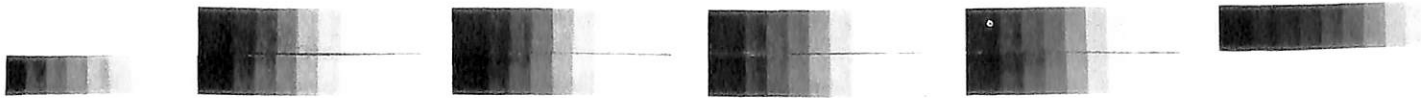
A time and effort saving step in taking color separation negatives is to expose one blank by holding a piece of black paper over the lens after each exposure. Therefore, if your separation negatives are slightly out of balance, they can be corrected either by reduction or intensification. This method also facilitates the comparison of the gray scales by rolling the negatives over so that the scales just touch. (Make certain that the strip of three negatives has been rinsed in water, before correction, to insure perfect registration of the color prints.) These separation negatives should be cut in strips and filed flat between two pieces of cardboard for proper preservation.

My color prints are made by the Kodak Dye Transfer Process. Information for making color prints by this method can be obtained from the Eastman Kodak Co., Rochester, N. Y., by writing for their booklet, "Color Prints with the Kodak Dye Transfer Process."

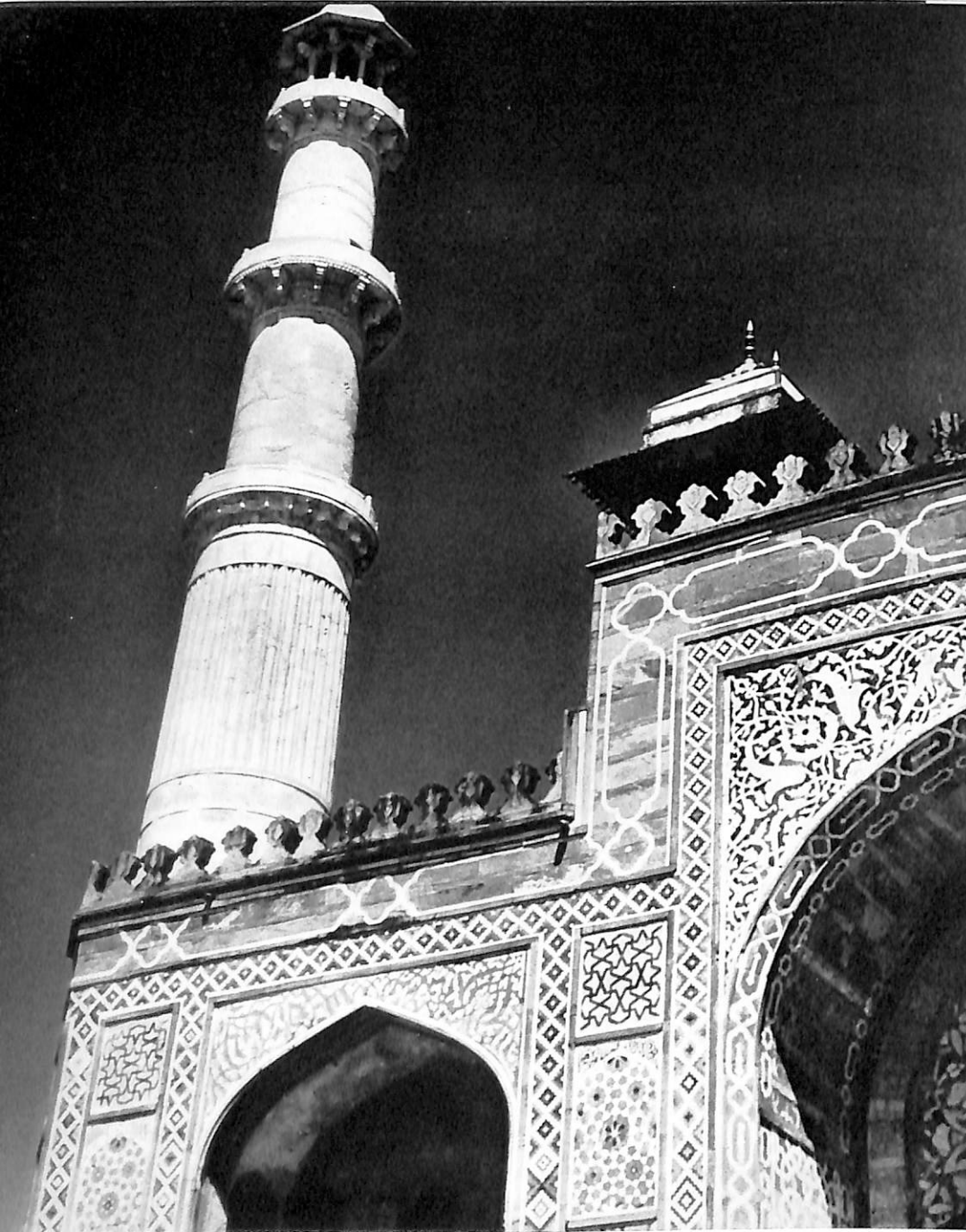
This whole operation of making color separation negatives is a time-consuming and detailed process, but when you make the final print, you'll agree that the result amply justifies all of your work.



*The gray scales match closely. This will make a good color print.*







*Akbar's tomb . . . India near Agra (detail)*

In the past ten years, my Leica has had a busy time. In fact, when I bought it, it was already internationally-travelled and experienced.

That first winter, the Leica went along on frequent ski trips. But, as I was a novice with both camera and skis, we three all had quite a time. By spring, the Leica had endeared itself to me more than the skis—a preference which was deepened with the years.

We have made nine trips across the States, that Leica and I, by car, train and plane, as well as five crossings of the Pacific. We are now back on the East coast again, having continued westward around the world on the last jaunt.

In 1944, when I went overseas with the American Red Cross, there was much concern over security regulations. Dutifully, I packed the Leica in my footlocker, and stashed

## A LADY AND A LEICA

by Rae Gilman Engebretson,  
Washington, D. C.

away the lenses and film in my more than over-loaded knapsack. On arrival in New Guinea, I dug out the Leica, and never again did I become separated from it.

Having been exposed to extensive advice on the effect of jungle living on clothes and cameras, as well as oneself, I worked out a health routine for the Leica. This involved keeping it in a waterproof bag and giving the 50mm. Summar and 90mm. Elmar judicious sun baths, on the principle that if sun killed other fungi, why not those fond of lenses? Something did help, for my lenses developed only the slightest "jungle rot." Fortunately, too, they were never overheated enough to

affect the cement of the lens elements, *but* the practice is not recommended without qualification.

After almost a year in New Guinea, I headed northward during the next twenty-four months, up through the Philippines, Okinawa, Japan and Korea, visiting bases where there were Red Cross installations, taking publicity photos and setting up darkrooms in Service Clubs. Between assignments and on days off, I leaned out of jeeps, trucks, planes, buses and ships, snapping the varied scene.

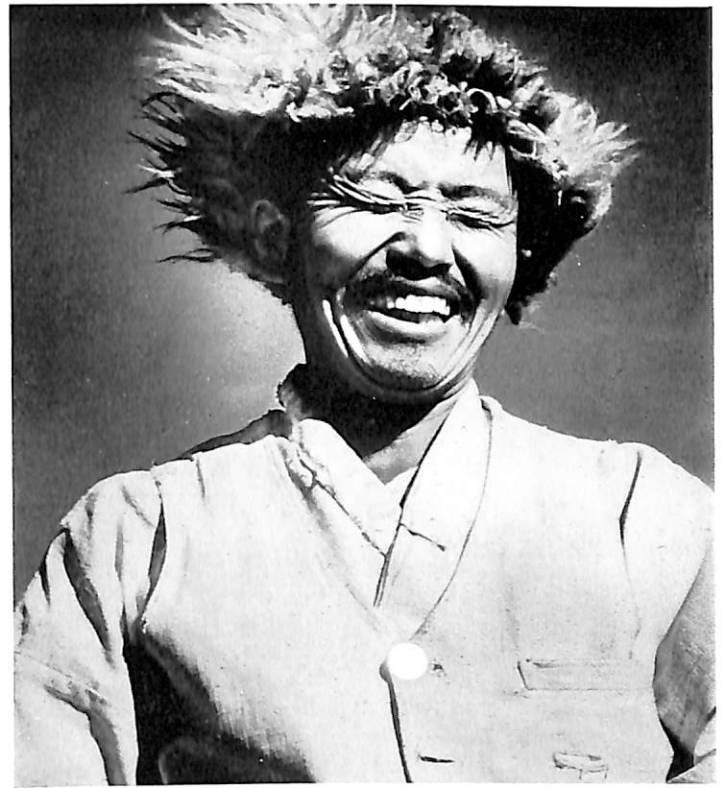
In Korea, I stayed on for another year, still shooting color with the same ever-present Leica. Jeep-riding on Korean roads is a vigorous activity; merely staying in the jeep calls for a good deal of concentration. I sat on an air-cushion, and the Leica sat in my lap, but even so,

*Continued on page 33*





*Ayudthia: statue of Buddha among ruins . . . Siam*



*Laughing man, wearing fur cap . . . Korea*

*Dancer . . . Bali*





# MINIATURE CAMERA LENSES Part I

by G. H. Cook, Leicester, England

(This article is published through the courtesy of Taylor, Taylor and Hobson, Ltd., Leicester, England.)

**M**ost amateur photographers who take an intelligent interest in their hobby realize that their results depend very largely on the quality of the lens and that one lens may be superior to another one of the same focal length and aperture. There are few, however, who really understand the nature of these differences and it may be of interest to discuss those aspects of this matter, which are not usually dealt with in the type of literature reaching the average photographer.

When we use some of the simple formulae which provide us with information concerning such things as depth of field and lens focusing movements, it is necessary to assume that our lens is perfect—a state of affairs which is never attained in practice. This simplification does not lead to serious errors since the public can rely on reputable manufacturers to produce lenses which will give perfectly satisfactory performance when they are used for the purposes for which they were designed. There are occasions, however, when the imperfections do become apparent and it is then advisable to modify one's procedure accordingly.

One of the imperfections is spherical aberration which concerns object and image points lying on the axis of the lens. The rays of light reaching the lens from an infinitely distant object point are parallel to its axis and to one another. In the presence of this aberration, rays entering the various zones of the lens cross the axis in front of or behind the point where rays close to the axis come to a focus. Fig. 1 illustrates how this longitudinal aberration is usually plotted on an exaggerated scale in a diagram, in which the vertical scale represents the distance between a ray and the lens axis and hence relative aperture. When the errors are balanced about the focal plane in the manner shown here we say that the spherical aberration is corrected and the residual errors are called zonal spherical aberration.

Off-axis image points are likely to suffer from astigmatism. If astigmatism is the only aberration present, an object point is imaged as two short straight lines in different positions in space; one line image being radial with respect to the lens axis and the other line at right angles to it. We call the first the radial, or sagittal, image and the second, the tangential image. The distance between the lines is a measure of the astigmatism that is present and the position of best focus is midway between them. Fig. 2 is a three-dimensional drawing illustrating this aberration, and it includes the usual diagram which indicates the amount of aberration present in a narrow pencil of rays passing through the center of the iris diaphragm. The whole line shows the position of the radial image with respect to the focal plane, and the dotted line that of the tangential image, while the vertical scale represents the semi-angular field of view. When the astigmatic errors are substantially zero at a point well out in the field, we say

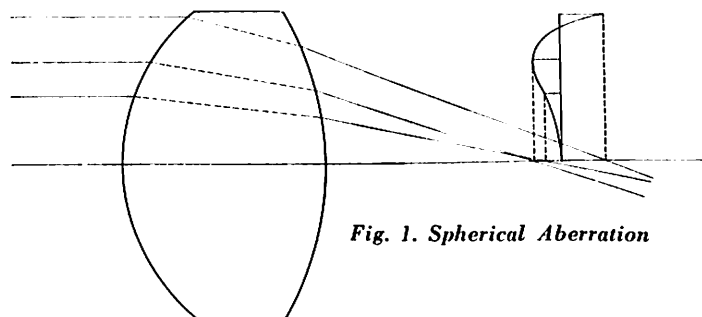


Fig. 1. Spherical Aberration

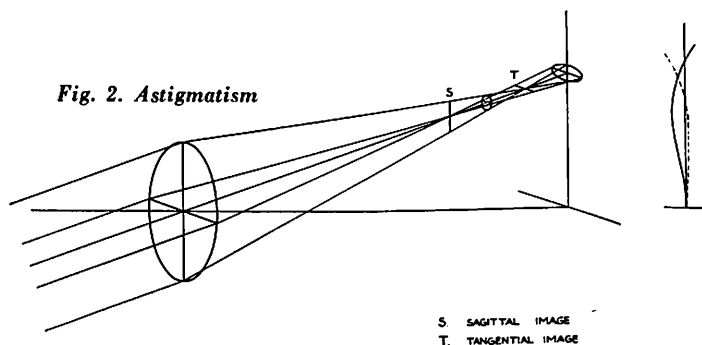


Fig. 2. Astigmatism

S. SAGITTAL IMAGE  
T. TANGENTIAL IMAGE

that the lens is an anastigmat, and that the residual errors are zonal astigmatism. The errors increase very rapidly beyond the point where the positions of the radial and tangential images cross over one another, and it is for this reason that good performance can only be expected when the lens is being used at the angular field of view for which it was designed.

Coma is another type of aberration which is restricted to off-axis image points, and it shows itself as an asymmetrical aberration patch of some complexity. Fig. 3 illustrates a relatively simple type of coma in which rays passing through a lens at wider apertures are focused on the film farther away from their correct position. If, in such a case, the image were formed entirely by rays in the plane of the paper, it would consist of a line of light AB. The cone of rays from each circular zone of the lens, however, comes to a focus in a circle, rather than a point. Consequently, the image formed by the entire lens aperture is made up of a series of these comatic circles, and the distribution of the light intensity is such that the aberration patch resembles the tail of a comet. Hence, the name "Coma." This important aberration must be considered in conjunction with the astigmatic correction, and because of its complexity, no hard and fast rules can be laid down. The simple form of coma shown in the figure is the exception rather than the rule in anastigmat lenses, and this aberration is most difficult to correct in lenses having both wide aperture and wide field of view.

There is no great difficulty in balancing any one of these aberrations, but the complete elimination of all three in lenses of useful apertures and fields of view is such a difficult matter that some residual errors are inevitable. It is obvious that, instead of a point image of a point object,



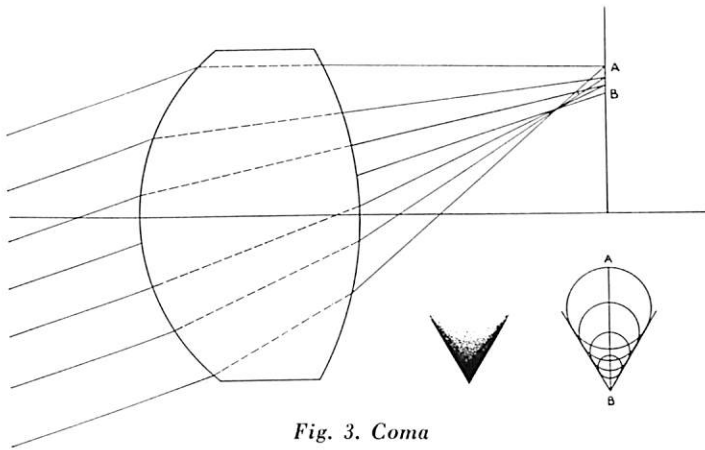


Fig. 3. Coma

we shall obtain an image patch of finite size and with a complex distribution of light intensity within it. It is the shape and size of this image patch and the light intensity within it which determine the resolving power of the lens. Fig. 4 is an enlarged reproduction showing the shapes of image patches at a series of positions in the field of a typical modern lens. The object at all positions was an illuminated pinhole and the peculiar shapes at the wider angular fields are due to the combined effect of astigmatism and coma.

It may happen that the aberrations are stable and remain balanced when object and image conjugate distances are changed radically, but this is the exception, rather than the rule. Fig. 5 shows how the same lens behaves when it is used for copying at a reduction of 3:1. The fact that the aberrations are unstable in this way explains why few modern camera lenses perform really well in an enlarger, and also accounts for some focusing discrepancies when lenses which are coupled to rangefinders or to focusing scales are used for near objects.

A further set of corrections dealing with achromatism, or color correction, is required in photographic lenses. It is not a difficult matter to select the types of optical glass in the lens so that light of two colors come to the same focus, but it is almost impossible to maintain the monochromatic aberrations over a wide range of wavelengths. In wide aperture lenses the variation of the aberrations, especially spherical aberration, with the color of the incident light, is of equal or greater importance than the achromatic correction. In many cases, a compromise is reached in which strict achromatism is sacrificed in order to obtain a better balance of all the errors. This compromise only works well at one particular aperture and its presence in a lens accounts for the fact that some wide aperture lenses give disappointing results when used at small stops.

The usefulness of any lens will depend upon the degree of correction of all the aberrations, but since we require the best performance to occur in the center of the picture, it is convenient to discuss the way in which spherical aberration affects the definition at that point and how it can be allowed for in the use of the lens.

The most obvious effect of this aberration, apart from its influence upon resolution, is that the position of best focus varies with relative aperture. In nearly all cases, this position is nearest to the lens at one or two stops

below full aperture and is farther away from the lens at maximum and minimum apertures. *If the lens is of simple and cheap design and has a fairly wide aperture, it is very likely that spherical aberration will be rather excessive. The wide aperture of such a lens is of little use, since the extreme marginal rays have to be considerably over-corrected in order to keep the aberration of the intermediate rays within reasonable limits.* The edge of the lens, therefore, cannot form any useful image and only increases the density of the negative at the expense of the contrast. These lenses can give surprisingly good results at full aperture with high contrast objects, but it is necessary to stop the lens down to get reasonably satisfactory results with low contrast objects. An incidental effect of this aberration shows itself as an artificially increased depth of field. Any claim that a particular lens has greater depth than another, stop for stop, must be taken as an admission that it suffers from an appreciable amount of spherical aberration.

The more expensive wide aperture lenses are expected to have a high resolving power for both high and low contrast objects, and the modern trend is to balance the aberrations so that performance is as good as it can be at full aperture, even if that arrangement is not best for lower apertures. The lens designer has to bear in mind the cost of making his lens, and there is little point in achieving remarkably good definition if nearly all the incident light is absorbed by a large number of thick lens elements. He is, therefore, in a position to anticipate that some residual aberrations will have to remain in his lens, and he does not increase the complexity of the lens shape beyond that required to reduce the residuals to the point where he believes they will not affect performance.

Any detailed consideration of lens performance must take some account of diffraction effects. In the absence of all aberration, the image of a point object appears in the form of a circular diffraction pattern, where the diameter of the central bright nucleus decreases as the aperture is increased. A fictitious perfect lens, therefore, would give its best performance at full aperture. The effect of aberration is to increase the diameter of this nucleus and to

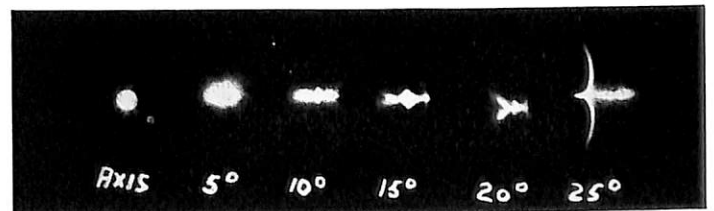


Fig. 4. Image patches at various positions in the field of a typical modern lens. Distant object points.

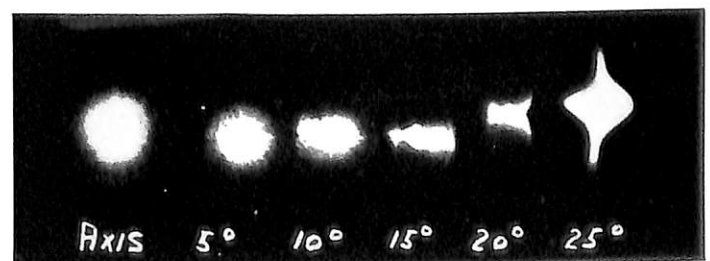


Fig. 5. Image patches. Lens copying at a reduction of 3:1.



redistribute the light intensity within it; this combined effect determines the resolving power. At full aperture, the actual aberration patch is usually larger than the diffraction disk given (in theory) by a perfect lens and, since it gets smaller as the lens is stopped down, definition is improved at smaller apertures.

It should be realized that the size of the diffraction disk is constant for each relative aperture of all lenses, whereas, broadly speaking, the aberration patch for each aperture varies with the focal length. Thus, there is little advantage in stopping down a well-corrected short focal length lens beyond three or four stops. Any apparent improvements in performance at unnecessarily small stops are due to various advantages from depth of field considerations which may counteract poor focusing or inaccuracies in mounting the lens on the camera.

Since the diffraction effect increases as the angle of the image-forming cone of light is decreased, we must expect plenty to be present when using an enlarging lens. An aberration-free lens working at F:22 with a ten times

magnification would give a diffraction disk with a diameter of about 1/100 of an inch which is quite appreciable.

Fig. 6 indicates the diameter of the patch of light which constitutes the image of a point object on the axis of a 2 inch F:2 lens of average spherical correction. If it is assumed that the object is of low contrast and that the emulsion is to be well exposed and developed, the light distribution in the patch can be ignored. The graph plots the diameter of the aberration patch against relative aperture. Curve A relates to a lens which is fixed in the position in which it focuses best at full aperture. Curve B shows the great improvement to be obtained by refocusing the same lens at each aperture. Curve C plots the size of the diffraction disk which would be given by a perfect lens.

In practice, of course, the diffraction and aberration errors are additive, and Fig. 7 indicates the final result. We see that, if the lens remains stationary (curve A), it is necessary to stop down to about F:8 to get the crispest definition, whereas if we can refocus at each stop, the lens reaches its best performance at about F:2.8 and maintains it over a wide range of apertures (curve B).

It will be noticed that the size of the aberration patch of this fictitious lens at full aperture is of the order of a few thousandths of an inch. This is about the same size as the disk of confusion allowed for in many depth of field tables. The same aberration must increase the size of the disk at the listed far and near distances well beyond the amount expected.

The assumption that the aberration patch is evenly illuminated assists us to understand how the lens behaves, but it is not always valid in practice, especially, if fairly large errors are present. In the majority of cases the light distribution will be such that resolving power decreases as the contrast of the object decreases. Fig. 8 illustrates this point and also explains the fact that a lens can apparently have two best focusing positions. Both these images of an illuminated pinhole were made with the same lens at the same stop and have been enlarged by the same factor; their different appearance is only due to refocusing. The normal focusing position and the best one for high contrast objects yields the result shown at A—there is a hard nucleus of high resolution surrounded by plenty of aberration fringe of lower intensity. As the contrast of the object is reduced the fringe becomes relatively more important until a point is reached where detail is lost and where a second focusing position giving the result shown at B is preferable. Since this effect can only occur in the presence of aberration it should not be very noticeable in expensive lenses.

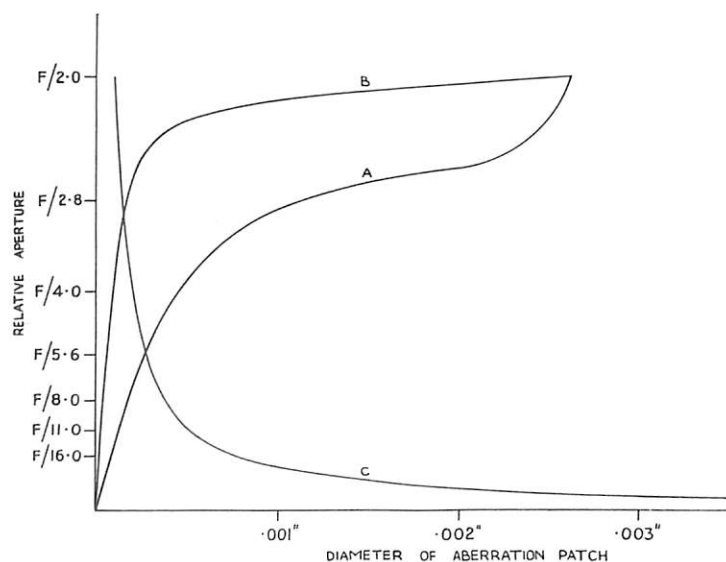


Fig. 6. Size of aberration and diffraction discs at various apertures of an average 5cm. lens.

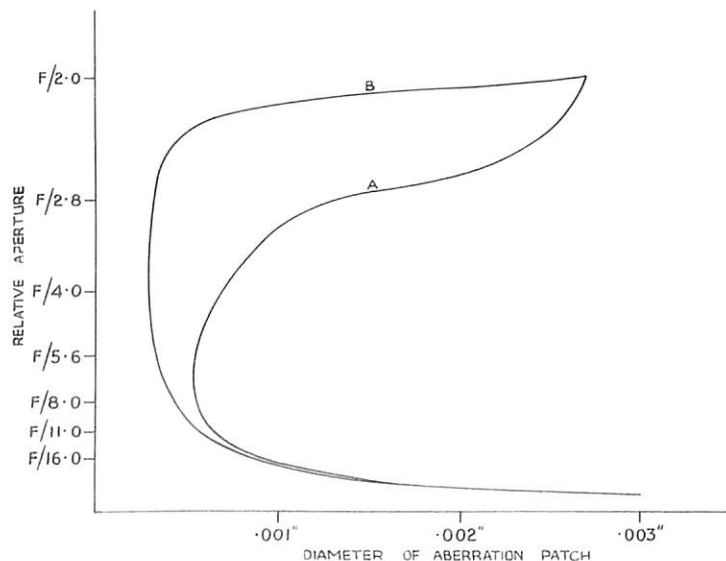


Fig. 7. Combined effect of aberration and diffraction.



Fig. 8. Different focussing positions.



# OUTDOOR COLOR PHOTOGRAPHY

*(Second in a series of articles on flash photography)*

by G. E. Herbert, New York, N. Y.



The technique I have developed for outdoor color portraiture is relatively simple and gives excellent results. It involves a Leica camera, a Leitz Model VIII Synchronized Flash Unit, the Imarect View Finder and a series of different focal length Leitz lenses.

Generally, I use either regular outdoor (daylight) 35mm. Kodachrome film or the indoor Type 'A' 35mm. Kodachrome with a Type 'A' Kodak conversion filter. These two types of color film, together with the Elmar 35mm., Hektor 135mm., or Summitar 50mm lenses, easily meet exacting requirements. This combination produces different pleasing tonal effects, from the most delicate to the most vivid extremes, as well as an amazing variety of compositions not possible with other equipment.

For comparison, I have even gone to the expense of having a number of other well-known lenses fitted to my Leica; however, my experiments show that the Elmar, Hektor and Summitar lenses give a sharper, better and more pleasing color rendition than any others in use with Kodachrome.

Type 'A' Kodachrome with Type 'A' Filter should be used for portraiture and other subjects in good-bright or hazy-bright mid-day sunlight (about two hours before and after twelve noon) to give a softer, more delicate tonal effect. Daylight Kodachrome, under the same conditions will give a more vivid color rendition. Under conditions of mid-day, cloudy-bright, the Kelvin temperature will be

*Continued on page 36*



# COLOR COPY WORK WITH THE LEICA

by R. Donald Reed, Chief,

Color Reproduction Section, National Institute of Health, Bethesda, Md.

Copy work is a field of photography rather devoid of glamour and pictorialism; yet there is a great demand for such work, and since the introduction of the color emulsions this demand has been ever increasing. It requires a bit of patience because of the numerous problems involved, but for the photographer with the inherent love of craftsmanship there is a satisfying reward in the production of a fine copy, be it either a job on an oil painting or a "dupe" from a color transparency.

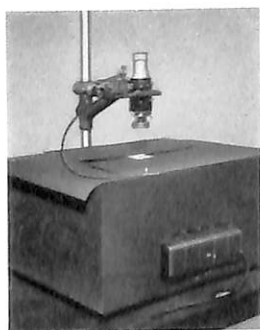


Fig. 1



Fig. 2

In the Leica camera and its accessories we have precision instruments for such work and we can well be appreciative of the wisdom and meticulous workmanship which have entered into their design and fabrication. From the standpoint of optics alone, one of the most critical factors in copy work, we have available a series of lenses in which such errors as longitudinal and lateral chromatic aberrations are practically non-existent. These aberrations can be a real headache in color work with longer focal length lenses as used on larger cameras, regardless of whether or not the lens is an apochromat process one.

Copying in color can be divided into two general classes of work:

1. Originals in the form of a transparency where illumination must be from behind and through the copy, such as Kodachromes, Ansco-colors, and color art work on film or glass.

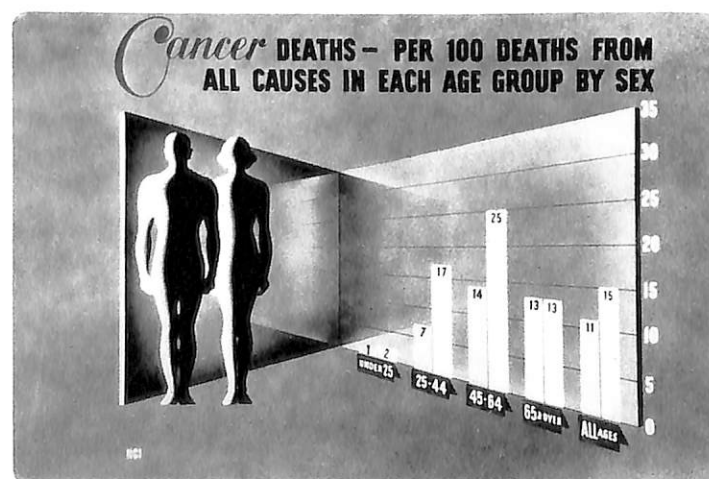
2. Originals in the form of color on a reflecting base, such as drawings, paintings, sketches, graphs or charts.

By way of example let us first consider the problem of

duplicating a 35 mm. color transparency. A satisfactory set-up is shown in Fig. 1. Here we have the Leitz Baseboard and Upright on which the Sliding Arm attaches to hold the Leica in a rigid vertical position. The Adjustable Micrometer Extension Tube is used to hold the Summar lens in order to give the same size image as the original, and with the 5x Magnifier to permit fine critical focusing. Illumination is provided by a light-box containing fluorescent tubes. This box can be easily made so as to hold 3 to 6 parallel tubes. The "white" variety of tube has been found to be quite close to the necessary color temperature. Multiple tubes are necessary to insure that no hot spots occur in illumination. The tubes are mounted close to the bottom of the box after painting the entire inside a flat white. As can be seen each tube carries its own transformer. White opal glass makes an ideal top for the box. A cheap ground glass should not be used because the granularity of such glass will surely be picked up in the copy transparency.

The image is lined up at the required size on the ground glass of the Focalslide using the Magnifier to obtain sharp focus. The lens is stopped down three or four stops to the recommended point of maximum sharpness. All extraneous light around the transparency is masked off with black paper or card and the room darkened to prevent reflections from the top surface of the transparency.

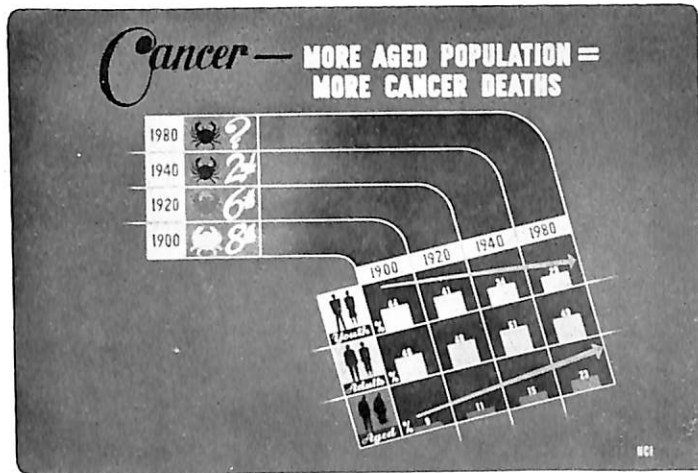
Good results in color copy work can only be expected after trial tests. This is largely due to the temperamental





nature of color emulsions. The problem is largely one of finding the right filter to give the desired result, regardless of any manufacturer's recommendations. With the described illumination and Kodachrome Type A film a Wratten 2A, Ansco 23 or 24 will be good for making the first tests. An exposure meter reading through the transparency with proper compensation for lens extension will be a guide for setting the shutter.

Here we must remember reciprocity failure: some color emulsions will show "pinkish" tendencies when exposures



become shorter than 1/25th of a second and "bluish" tendencies when exposures become longer than 1 second.

#### Editor's Note:

*The Eastman Kodak Company have recently issued technical data on the various aspects of reciprocity failure and its effect on color rendition.*

If the exposure figures to 1/4 second it is well to make additional exposures at 1/10, 1/2, and 1 second. This should be done with each of the trial filters. Needless to say, careful records should be kept for later reference.

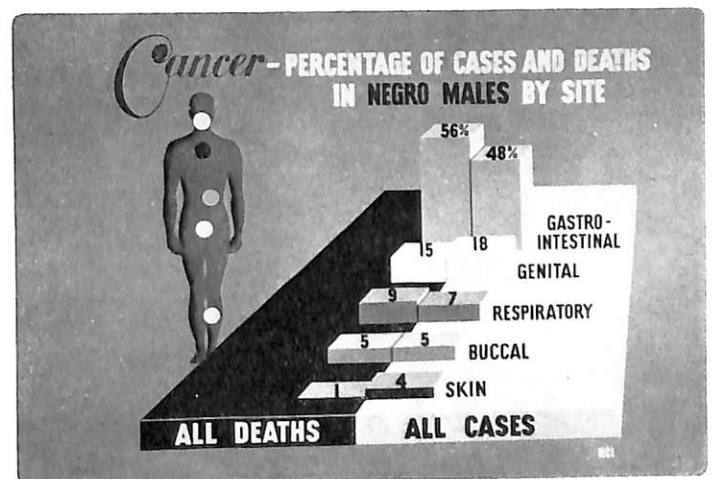
First results will show what is wrong. Bluish casts from incorrect color temperature must be corrected by using deeper yellow filters while reddish casts require the use of deeper blue or cyan filters. Sets of these filters are commercially available. Due to the numerous variables involved you will only secure the best results by this testing method of approach to the job.

As in all color copy work the side by side comparison with the original transparency will be a bit disappointing. Inaccuracies in the dyes and emulsions of color films together with peculiar properties not apparent in the original transparency cause this condition. By using masks for color correction and scale reduction we can improve the result somewhat but such techniques are outside the scope of this article.

In Fig. 2 is shown an arrangement for copying in color a four-color letterpress reproduction of a painting. The Enlarging Easel makes an excellent holder for the copy and permits dispensing with any cover glass that might

introduce color inaccuracies. In this case the Intermediate Focusing Mount is used to hold the Summar lens thus giving the necessary size reduction and again permitting fine focusing. Illumination is set up at the usual 45 degree angles and preferably with 2300 degree K lamps. Here too it may be necessary with Kodachrome Type A to use a filter to compensate for the altered color of the light if there is a fluctuation in the line voltage on the individual set-up. As before, an exposure reading is taken as a guide to the first tests but this time by reflected, rather than transmitted light. There is always the possibility of reflections from this type of copy and these can be minimized by use of the Leitz Polarizing Filter. In cases where the copy is an oil painting with heavy brush strokes causing bad reflections it will be necessary to use polarizing screens over the lights as well as over the lens. In this case a further change of filters will be required if any color temperature change is introduced by the polarizers over the light sources. Dramatic and peculiar effects can at times be obtained through the use of polarized light, depending on the nature of the pigments or dyes in the original copy.

In the professional shop where arc light illumination is available, the daylight type Kodachrome should be used on color copy work. The writer has achieved the best color results with this type of film. By using light yellow filters to compensate for the higher color temperatures of the arcs as compared with sunlight, color copies can be produced that are very close to the original. Reds in the final result will be slightly orange while blues and greens will be



slightly too dark. In addition to those reasons mentioned previously such inaccuracies stem from the relative efficiencies of the very colors in the original copy and must be borne with unless the masking processes are used. Photo-engravers have for years (and still do) compensated for such errors by use of their "good right eyes" and their retouching techniques on separation negatives, positives, and printing plates, but these methods are not applicable to the preparation of color transparencies in quantity.

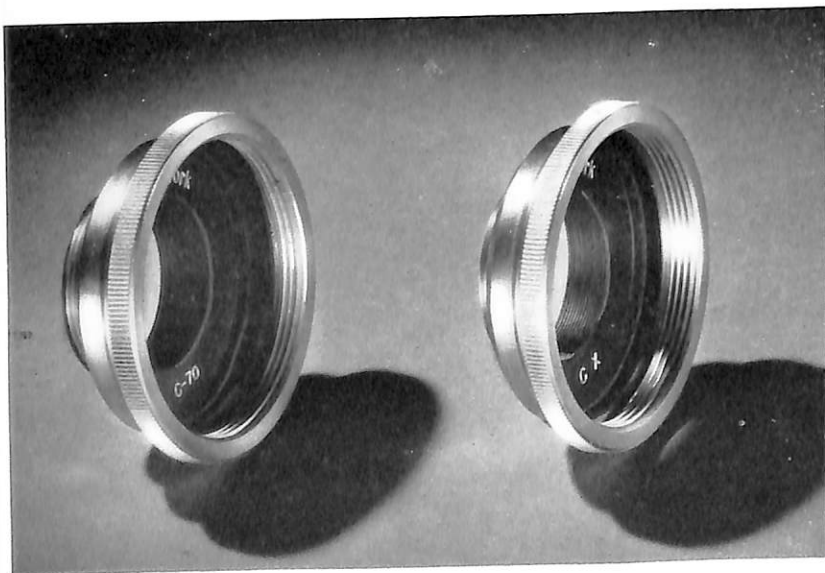
*Continued on page 34*



# Leica NEWS

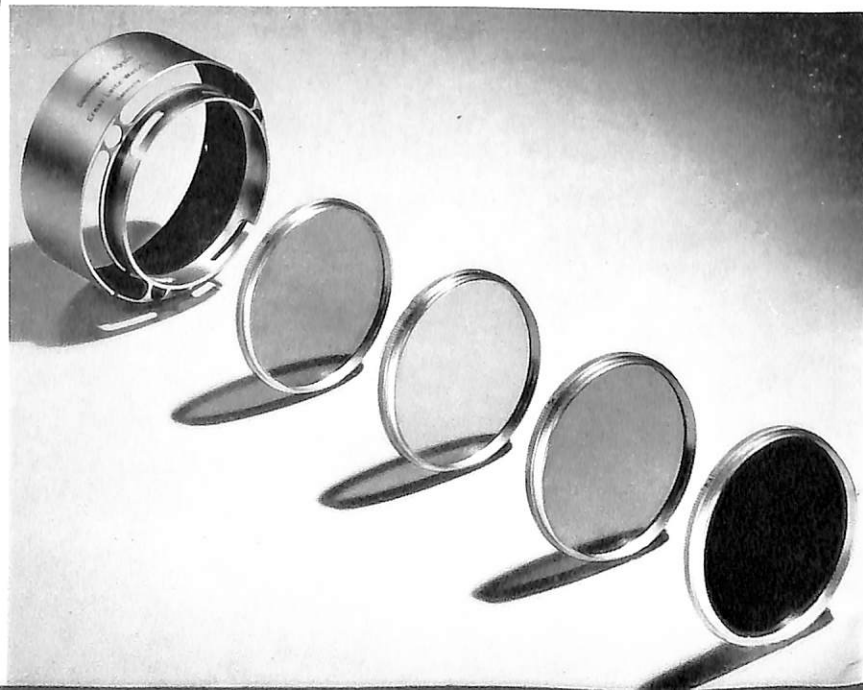
ACCESSORIES NOW IN PRODUCTION

→  
Our Combination Carrying Case has been conveniently rearranged inside. It is now possible to insert a Leica camera with a long-focus lens in place. Open spaces permit additional equipment, such as the flash baseplate or extra lenses, to be placed in the case also. An ideal gift, the Combination Case is still only \$33.00 (ELFOR, 68081).



←  
Many movie camera owners have discovered what excellent results can be obtained by using Leica lenses on their cameras. Leitz Cine Adapters are specifically designed for this purpose. The "C-70" adapter (CINPY, 67017a) is for Bell and Howell's Model 70 only. However, the "C-X" adapter (CINLE, 67017) will fit all 16mm. cameras with Type "C" mounts. Both are priced at \$5.25.

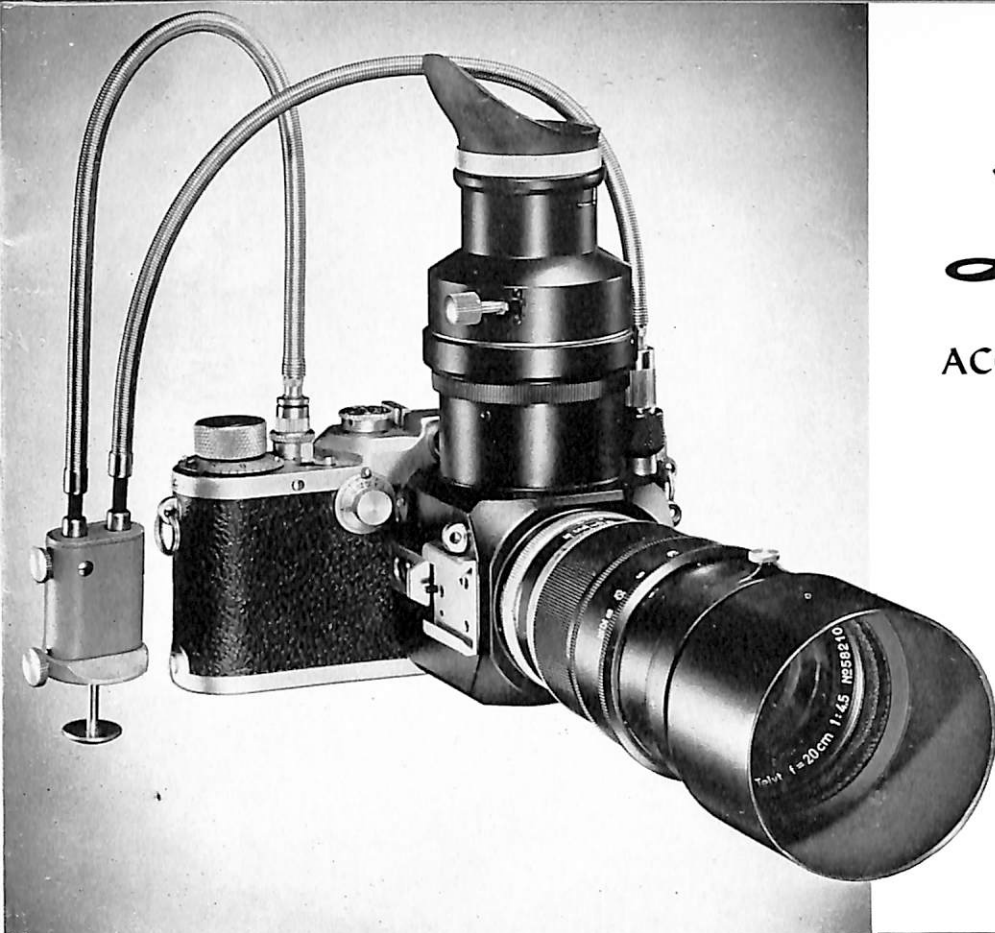
→  
Also newly arrived are the following screw-in type filters for the Summarex 85mm. lens: Yellow #2 (UQOXY, 66521, \$10.50); Green #1 (UROOX, 66522, \$12.25); Infra-Red #3 (USOOW, 66525, \$12.25); and Orange-Red (UTSOO, 66526, \$12.25). Not pictured is an Eveready Carrying Case with shoulder strap for the Summarex (ENOOW, 68119, \$6.85).





# Leica NEWS

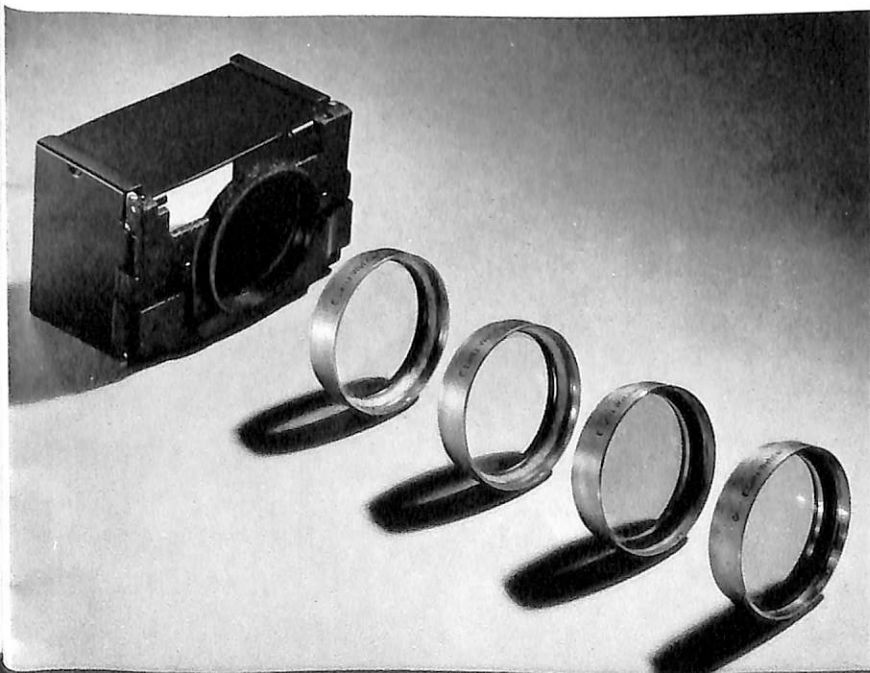
ACCESSORIES NOW IN PRODUCTION



Leitz Telyt lenses are widely used—for taking bird photographs to snapping sports action. At present, only the 200mm. (8"), f/4.5 is available in a new, lightweight 14.5 oz. mount. Complete with Mirror Reflex Housing, sunshade and double cable release, the price is \$392.00 (TOOLP-B, 65700). The lens only, \$238.00 (OTPLO-B, 65701).



Latest addition to the Leitz line of magnifiers is this 5x magnifier with a 90° viewing angle (PAMOO, 70046, \$33.00). The PAMOO was designed, primarily, for use with the Mirror Reflex Housing and permits convenient viewing from behind, rather than above, the set-up equipment.



Slip-on filters and a sunshade are now available in limited quantity for the Summarit 50mm. lens. These items will also fit the prewar Xenon lens. The sunshade is collapsible, similar to the Summar shade (X100M, 66718, \$15.05). Available filters are: Yellow #1 (X00BZ, 66492, \$7.77); Yellow #2 (X00CN, 66494, \$7.77); Green #1 (X00CP, 66504, \$8.68); and Orange-Red (X00ME, 66509, \$8.68).



# Every Leica User Should Own The All-New LEICA MANUAL

It's a MUST for every 35mm. user! Expert or beginner . . . professional or amateur . . . no matter which type miniature camera you own, you'll find this new, complete and authoritative "Bible" of miniature photography invaluable in your work. See the *New Leica Manual* on sale at your franchised Leica Dealer about November 1st.

Now, completely rewritten and entirely new in both its scope and content, the *Leica Manual* is the most comprehensive and important work of its kind available.

Within the comparatively small scope of 432 pages, you'll find a treasure chest of Leica information gleaned from photographers, editors, advertising executives, doctors, scientists and distributors of photographic equipment. Their varied experiences and theories have been condensed and clarified in response to actual demands and queries for information, obtained spontaneously or as

a result of questionnaires sent into the photographic field.

The *New Leica Manual* is edited and arranged to give utmost clarity, legibility and authenticity. No experimental or sensational procedures, methods, formulas, or their modifications are included, as such material may be rapidly forgotten or discarded.

From lens information to print finishing . . . from high speed strobe photography to underwater pictures, the 25 interesting and informative chapters of the *New Leica Manual* cover almost every conceivable phase of miniature technique. Attractively bound in a hard cloth cover, its 432 pages include more than 200 black and white and color photographs.

Not just "one man's opinion," the *Manual* represents the combined efforts of 22 separate photographic writers . . . each one an outstanding authority in his special field. There's Eisenstaedt on magazine photography, Mohler on flash, Carroll on lenses, Risling on child portraiture . . . names enough to make it virtually a "Who's Who" of photography.

The *New Leica Manual* contains the most complete chapter on various phases of medical photography yet published. Dr. Wayne M. Hull discusses cystoscopic photography, orthopedic photography, oral photography, photography of surgical operations, micro photography and other interesting and informative technical work.

Beaumont Newhall, curator of Eastman House and author of the *History of Photography* delves into the scientific with his article on the Leica as a research aid, while Arthur Rothstein, *Look* magazine photographer, emphasizes the advantages of the Leica in news photography and other branches of photo-journalism.

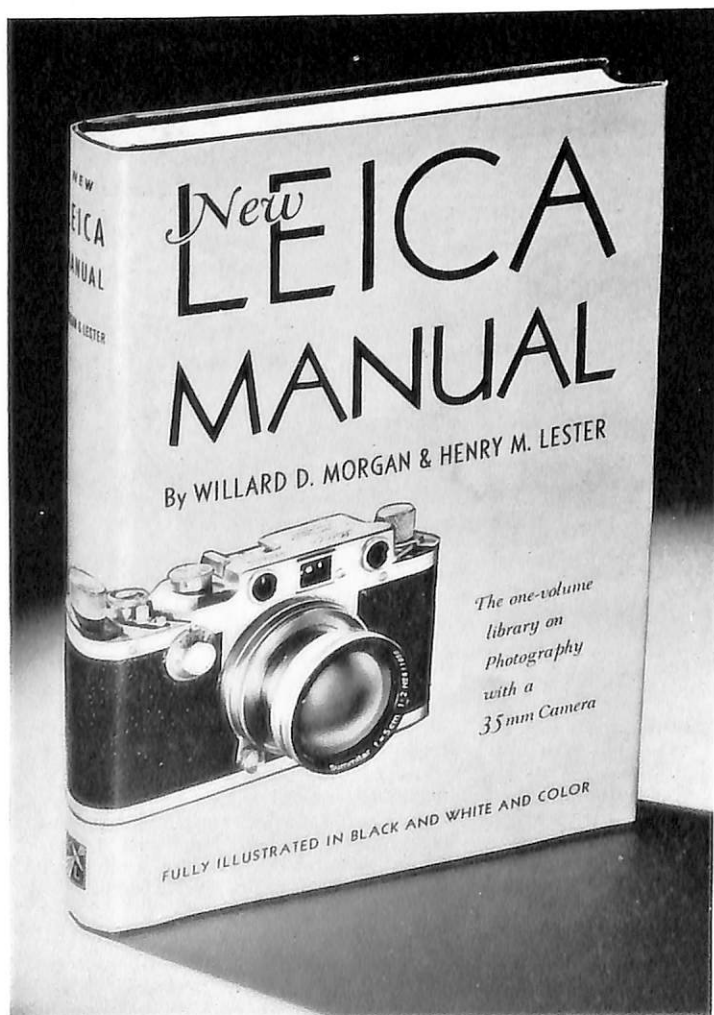
Color in relation to the Leica camera is described by Henry M. Lester; Ansel Adams, noted landscape photographer discusses enlarging papers and printing, while former *Life* photographer William Vandivert describes industrial photography and how the Leica helps give a feeling of intimacy to public relations.

More than 150,000 copies of the 11 previous editions of the *Leica Manual* have been sold since 1935, in both the United States and foreign countries. Representing the foremost trends in modern photography, the *New Leica Manual* illustrates the present day approach to photography as both a means of record, and a form of self-expression.

Published by Willard D. Morgan and Henry M. Lester, practicing photographers themselves, the *New Leica Manual* is an indispensable tool for those whose interests center around miniature photography. Like the original *Leica Manual*, it will, no doubt, be accepted as a standard text of instruction in many colleges, schools, research laboratories, government agencies and photographic studios throughout the world, as a source of accurate and essential information.

For present owners of the *Leica Manual*, as well as for those who have not yet become familiar with this one-volume library on photography with a miniature camera, the *New Leica Manual* is a MUST! Priced at \$5.00, it may be obtained from your franchised Leica dealers, or ordered direct from E. Leitz, Inc., after November 1st.

See it! Buy it! Read it! Your future photographs will prove its value.





A CAPITOL NIGHT  
By Julius Huisgen





TURKISH SADDLE MAKER  
By Lt. James G. Mason





ESTECH—MEXICO  
By Helen Manzer





NO DISCORD  
By T. J. Baxter

**SOME PUNKINS**  
By Roy A. Whipple







LARRY  
By W. G. Celva





SMOKEY  
By Timothy Harden





NANAS HAVE NO BONES  
By F. B. Fowle

# NOTES AND TIPS

## ABOUT YOUR PICTURES

**"A Capitol Night"**—By Julius Huisgen, St. Albans, N. Y.  
Leica IIIC, Summaron 35mm. at f/5.6, 30 seconds on Kodak Panatomic X film, developed in Panthermic 777

**"Turkish Saddle-Maker"**—By Lt. James G. Mason, Chandler, Ariz.  
Leica IIIC, 90mm. Elmar at f/8, 1/200 second on Plus-X film, developed in Agfa Nografol

**"Estech-Mexico"**—By Helen Manzer, New York, N. Y.  
Leica IIIC, 90mm. Elmar at f/8, 1/100 second with reflectors, from Kodachrome

**"No Discord"**—By T. J. Baxter, New Bern, N. C.  
Leica IIIC, f/2 Summar at f/8, 1/100 second

**"Some Punkins"**—By Roy A. Whipple, Winnetka, Ill.  
Leica IIIC, f/2 Summar at f/6.3, 1/60 second

**"Larry"**—By Walter G. Celva, Denver, Colo.  
Leica III, 135mm. Hektor at f/6.3, 1/6 second on Kodak Panatomic X, developed in Microdol

**"Smoky"**—By Timothy Harden, Nashville, Tenn.  
Leica IIIa, 90mm. Elmar with flash at f/6.3, 1/200 second on Kodak Panatomic X, developed in Finex

**"Nanas Have No Bones"**—By F. B. Fowle, New Brunswick, Canada  
Leica IIIC, 135mm. Hektor at f/6.3, 1/60 second

**500,000th LEICA** . . . Recently, the Leitz Works at Wetzlar produced its 500,000th Leica camera. In honor of the occasion, this camera was presented to Dr. Ernst Leitz, Sr. with a testimonial scroll inscribed with a suitable tribute to his foresightedness back in 1923 when, despite opinions to the contrary, Dr. Leitz authorized the large-scale production of Leicas. Their present number fully justifies his faith in their acceptance by the world.

**DON'T MAKE A MOVE** . . . without notifying us of your change of address; remember that it takes from four to six weeks to put through such a change, and we want to know so that you won't have to miss an issue of LEICA PHOTOGRAPHY.

**CHANGE MADE** . . . In our Summer issue of LEICA PHOTOGRAPHY we told you about the new all-metal easel for the Leitz enlargers. We regret that due to circumstances unknown to us at press time, the easel will only be supplied in warp-resistant laminated wood. This easel is similar to the popular printing boards produced before the war.

**66742** . . . The adjustable sunshade designated by the beforementioned catalog number, *cannot* be used with the Summaron wide angle lens as the corners of the negative "cut off" because of the wide angle of view.

**EYEGGLASS WEARERS ATTENTION** . . . we are pleased to announce the availability, once again, of correction lenses for the built-in rangefinder and viewfinder.

**65,935—ORWYB** . . . Correction lenses for near and far-sightedness, for use on rangefinder and viewfinder of *Leica Cameras Model IIIB, IIC and IIIC only*. Prices vary according to diopter selected, ranging from:

<i>Plus or Minus Spheres</i>			
Plano to	2.00 diopters	\$10.00	
2.25 to	4.00 "	12.00	
4.25 to	6.00 "	12.00	
6.25 to	8.00 "	15.00	

<i>Minus Only</i>			
8.25 to	9.00 diopters	15.00	
9.25 to	20.00 "	18.00	

<i>Plus Only</i>			
8.25 to	9.00 diopters	15.00	
9.25 to	12.00 "	18.00	
12.25 to	16.00 "	18.00	
16.25 to	20.00 "	21.00	

**65,937—ORYCE** . . . Correction lenses for astigmatism, for use on rangefinder and viewfinder of *Leica Cameras Model IIIB, IIC and IIIC only*.

<i>Sphere</i>	<i>Cylinder</i>	
0.25 to 2.00 diopters	to 2.00 diopters	\$12.00
2.25 to 3.00 "	to 2.00 "	12.00
3.25 to 4.00 "	to 2.00 "	15.00
4.25 to 6.00 "	to 2.00 "	15.00

It is essential that the prescription be sent in for the eye used by camera owner.

Delivery in approximately four weeks. Prices include installation.

**LOW FLYING** . . . A Leica Model III, owned by Mr. Nelson Jay of New York City, was dropped from the doorway of a DC-3 to the solid concrete runway twelve feet below. Even after the fall, the camera was in operating condition, and, after a general overhaul, it was as good as new.

**MORE ILLUMINATION** . . . Mr. W. H. Watkins, well-known cave photographer of the National Speleological Society in Washington, D. C. writes:

"We were in the process of constructing special viewfinders to give more illumination for our underground work when E. Leitz came along with the new 50mm. Optical Finder which has completely solved the problem of finding even enough light to frame the subject in the blackness of the caves. . . . The Finder is extremely valuable to those of us who wear glasses."

Mr. Watkins' reaction is typical of others received and, unfortunately, the demand for this item has far exceeded the supply.



## NOTES AND TIPS

**ASSAULT ON BATTERIES** . . . Often, after putting new batteries in the flash unit, the bulb fails to fire. This is caused by poor contact of the cells in the battery case. To assure correct contact and full voltage, take a small piece of fine sand paper and clean the top center post and the bottom of each cell before placing them in the battery case. Also, occasionally check and clean the contacts of the connecting cord.

Flash batteries will last longer with occasional use than if they are not used at all; even "leak-proof" dry cells corrode with prolonged storage. If you are not going to use your flash unit for a period of a month or so, remove the batteries. In fact, it is a good policy to replace batteries every three months, *regardless of how much use the unit has had*. It is inexpensive insurance.

**SLOW BOAT** . . . We regret to inform those of you who have ordered the special 50mm. Finder and Self-Timer that the over-whelming demand has disrupted production schedules. Delivery will be indefinite for some time.



**LEICA'S IN THE MOVIES** . . . Go see the motion picture "Shakedown" starring Howard Duff, the "Sam Spade" of radio fame. In this film, Leica stars too.

In the role of an ambitious amateur photographer who means to reach the top through his work, Duff is accompanied by his "trusty Leica" throughout the picture.

A particularly meaty shot lands him a job, but when his free-lance career combines Leica photography with blackmail, romance and intrigue, something is bound to happen!

The picture will be released sometime in September by Universal-International Studios. Don't miss it!

**FINDER INFO** . . . in reply to many requests of how to use the Imarect Finder. The knurled ring is engraved with two index marks—long and short—for greater accuracy. The long line is used when the picture range is over six feet, the shorter line when photographing at distances of three and a half to six feet. This reduces the Finder image slightly, providing a more accurate view of the subject at close range.

**NEW EXPOSURE GUIDE** . . . A handy computer booklet which provides film exposure information has recently been published by the American Standards Association. The computer consists of three essential parts: (1) light tables evaluating the amount and type of light available for camera exposure; (2) scene tables, analyzing the types of scene structure which are to be photographed; and (3) a method of using these values to compute camera exposures.

The data is based on material prepared by a group of scientists in the field for use by the armed forces during the last war. *The American Standard Exposure Computer* may be obtained for \$1.00 from the American Standards Association, 70 East 45th Street, New York, N. Y.



**BINDOMAT** . . . Drop into your Leica dealer's and notice the new BINDOMAT display now being featured on his counter. Note the Leitz cover glass, new slide masks and new cloth tape. See for yourself how easy it is to operate.

When you see the BINDOMAT on your dealer's shelves, *look, study and try it out*—then buy a BINDOMAT, for more convenient, economical slide preparation. Say goodbye to tremble-fingered slide mounting. Remember, Leica dealers handle it exclusively!

**STOP PRESS ITEM . . .** As we go to press, it has been announced that the following articles are now available:

The Auxiliary Reproduction Device (70,922, BEHO), for Leica with interchangeable Elmar or Summar lenses 50mm., for photographing small objects in slightly reduced size (scale 1:1.5, 1:2 and 1:3). The size limit of the object for the three possible settings is  $1\frac{7}{16} \times 2\frac{1}{8}$ ,  $1\frac{7}{8} \times 2\frac{7}{8}$  or  $2\frac{7}{8} \times 4\frac{1}{2}$  in., consisting of three different intermediate collars marked 1:1.5, 1:2 and 1:3, a universal clamping ring and four adjustable legs, with bands indicating distances (white bands for the Elmar and yellow bands for the Summar lenses).

A Setting Device (70,925, BEOOY) for the Leica camera, with interchangeable lenses Elmar, Hektor or Summar 50mm. focus in connection with supplementary Front Lenses Nos. 2 or 3. This consists of a clamping ring and four adjustable legs, with bands indicating distances (white bands for Elmar and Hektor lenses, and yellow bands for Summar lenses). The size limits of the object for the three possible settings are  $3\frac{3}{8} \times 5$ ,  $4\frac{1}{4} \times 6\frac{5}{16}$  and  $5\frac{5}{8} \times 8\frac{1}{2}$  in.

Four Extension Rods (70,940, BETAB) for Setting Device No. 70,940 for use with Front Lens No. 2 with the focusing mount of the camera lens set at infinity, size of the object  $8\frac{7}{16} \times 12\frac{5}{8}$  in.

**CAMERA INSURANCE . . .** Mr. R. R. Ross of Waukegan, Ill. wrote us recently and we consider his word of caution well worth repeating:

"My Leica is in your shop at the present time, having suffered badly in a fall. You might at some time write an article on the value of camera insurance for if I did not have mine insured it would certainly upset my budget to pay the bill which I am sure it will take to fix it."

**SAFE SOLUTION . . .** Leica owner, Malcolm Thomas, New York, N. Y., offers a convenient suggestion to safeguard an easily lost accessory.

"We always carry our Leica flashgun in our 'gadget' bag whenever we go out after dark or on a trip. The pin that engages the shutter has been a constant source of worry since it was damaged at one time by knocking around in the bag. We solved this problem by putting the baseplate in an old eyeglass case. It just fits and is rigid enough to stand any ordinary handling."

We hope this idea will be of help to other Leica owners.

## Show Your VACATION PICTURES



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CRYSTAL BEADED SCREEN!

If you are projecting on a wall, sheet or soiled screen, you are losing most of the brilliance and detail of your pictures. A DA-LITE screen, with its famous Crystal-Beaded surface, will make your slides and movies 3 times brighter. Ask your dealer for a DA-LITE screen! More than 2,000,000 sold.

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—Has patented Octagon Case which prevents wear on fabric. Sizes 30" x 40" to 70" x 70".

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- C. Highest quality Pyroxylin facing
- D. Coating fuses beads to Pyroxylin
- E. Da-Lite Crystal Beads for maximum brightness



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Please send sample of Da-Lite Crystal-Beaded fabric and illustrated circular.

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**ARTEX**

A warm-toned chloro-bromide paper with a "crayon" effect, for portraits or salon prints. Three contrasts, a variety of surfaces.

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A new, warm-toned portrait paper.

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**The GEVAERT COMPANY of AMERICA, Inc.**  
423 West 55th Street, New York 19, N. Y.  
In Canada: Gevaert (Canada) Ltd., Toronto, Ont.



# WHERE TO GO . . . FOR LEICA

This Directory contains a partial list of LEICA Camera Franchised Dealers, all of whom are fully equipped to offer complete LEICA service and finishing.

## ALABAMA

Birmingham

**BROMBERG & CO., INC.**  
123 North 20th Street

## ARIZONA

Tucson

**NU ART PHOTO SERVICE**  
120 East Congress Street

## CALIFORNIA

Bakersfield

**HENLEY'S DORMAN PHOTO SHOP**  
1673 Chester Avenue

Beverly Hills

**BEVERLY HILLS CAMERA SHOP**  
417 North Beverly Drive  
**AREMAC CAMERA EXCHANGE**  
9443 Wilshire Boulevard

Chico

**STAPLES FOTO SHOP**  
220 Broadway

Eureka

**PHOTO SPECIALTY SHOP**  
511 F Street

Glendale

**GLENDAL CAMER CENTER**  
412 North Brand Boulevard

Hollywood

**MORGAN CAMERA SHOP**  
6262 Sunset Boulevard  
**STANDARD CAMERA SUPPLY CO.**  
7901 Santa Monica Boulevard

Long Beach

**CITY PHOTO SERVICE**  
1717 East Anaheim Street

Los Angeles

**AREMAC CAMERA EXCHANGE**  
9443 Wilshire Boulevard  
**BEVERLY HILLS CAMERA SHOP**  
417 North Beverly Drive  
**MARSHUTZ OPTICAL CO.**  
418 West Sixth Street  
**MATUS CAMERA SUPPLY CO.**  
5356 Wilshire Boulevard  
**SPINDLER & SAUPPE**  
2201 Beverly Boulevard  
**STANDARD CAMERA SUPPLY**  
7901 Santa Monica Boulevard  
**WINTER & CO.**  
525-7 West Sixth Street  
**VALLEY DRUG COMPANY**  
560 Seventeenth Street

Merced

Monterey

**McKAY'S**  
470 Alvarado Street

Oakland

**CAMERA CORNER**  
431 Thirteenth Street

Pacific Grove

**DAVIDSON & LIGHT**  
1635 Broadway Street  
**THE CAMERA EXCHANGE**  
549 Lighthouse Avenue

Pasadena

**ALVIN'S PHOTOGRAPHIC SUPPLIES**  
914 East California Street

Sacramento

**JOHN PARDEE PHOTOGRAPHIC SUPPLIES**  
Fulton and Marconi Streets

San Bernardino

**ROY DAVIS' CAMERA SHOP**  
415 Third Street

San Diego

**BUNNELL PHOTO SHOP**  
1033 Sixth Avenue

San Francisco

**ALLEN'S PHOTO SUPPLY CO.**  
238 Market Street

**ALFRED BASS, INC.**  
585 Market Street

**MONROE J. BELLING**  
1126 Market Street

**BROOKS**  
45 Kearny Street

**CAMERA CENTER**  
998 Market Street

**KAUFMANN CAMERA MART**  
590 Market Street

Santa Cruz

**C. R. SKINNER HIRSCH AND KAYE**  
259 Grant Avenue

San Jose

**ED WEBBER'S PHOTO SHOP**  
1374 Pacific Avenue

Santa Monica

**CAMERA SHOP**  
245 South First Street  
**BOULEVARD CAMERA SHOP**  
1201 Wilshire Boulevard  
**CARLSON'S PHOTO SUPPLY**  
202 Santa Monica Boulevard  
**CORBIN PHOTO SUPPLY**  
717 Marin Street

Vallejo

## COLORADO

Denver

**SQUARE DEAL CAMERA SHOP**  
1539 South Broadway

## CONNECTICUT

Danbury

**STURDEVANT'S PHOTO SHOP**  
284 Main Street

Hartford

**MERRILL'S CAMERA EXCHANGE**  
182 Pearl Street

New Haven

**DAVENPORT PHOTO SHOP**  
1182 Chapel Street

Stamford

**LEON DERAN STUDIO**  
32 Park Row

Waterbury

**SPEEDS**  
21 Grand Street  
**WILHELM, INC.**  
129 West Main Street

## DISTRICT OF COLUMBIA

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JOHN VAICH CAMERA SHOP  
801 Washington Street  
CAMERA SHOP, INC.  
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WELCH'S CAMERA CENTER  
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J. C. FREEMAN & CO.  
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Kalamazoo

Wyandotte

CALKINS-FLETCHER

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325 State Street

THE POINTE CAMERA SHOP

16357 East Warren

THE SILHOUETTE CAMERA SHOP

11862 Grand River Avenue

FUSON'S CAMERA SHOP

165 Ottawa Avenue, N.W.

CRESCENT STUDIOS CAMERA SHOP

334 West Michigan Avenue

FELDMAN CAMERA EXCHANGE

304 Oak Street

## MINNESOTA

Duluth

Mankato

Minneapolis

New Ulm

St. Paul

NELSON PHOTO

2026 West Superior Street

SCHMIDT'S PHOTOGRAPHIC SUPPLIES

226 South Front

NORTHERN PHOTO SUPPLY CO.

521 Second Avenue, South

HEATHERCRAFT

Camera Corner, 4 North Minnesota Street

FISHER PHOTOGRAPHIC SUPPLY CO.

381 3 Minnesota Street

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KRETCHMERS LEICA SPECIALISTS

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CALANDRA CAMERA CO., INC.

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Buffalo

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Mount Vernon

Newburgh

New York

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MASON'S-BUFFALO PHOTO MATERIAL CO.

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HANS UNFRIED PHOTO SUPPLIES

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MORAT SERVICE, INC.

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FOTOMART

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THE TOWN FOTOSHOP

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GENERAL PHOTO SUPPLY

189 Broadway

SEAMAN'S

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ABE COHEN'S EXCHANGE, INC.

142 Fulton Street

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AREMAC CAMERA COMPANY, INC.

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### CAMERA CRAFT, INC.

Shaker Square

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1025 Huron Road

### REITMAN CAMERA EXCHANGE

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### BUDD & CO.

30 North High Street

### CAMPUS CAMERA CENTER

1616 North High Street

### COLUMBUS PHOTO SUPPLY CO.

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### CLICK CAMERA SHOP, INC.

31 West High Street

### RAPID PHOTO SERVICE, INC.

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Harrisburg

Philadelphia

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### KLEIN AND GOODMAN, INC.

18 South Tenth Street

### KOSMIN'S CAMERA EXCHANGE

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### RITZ CAMERA CENTER

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### LIBERTY PHOTO SUPPLY

436 Wood Street

### PENN CAMERA

910 Liberty Avenue

### SHORE'S PHOTO SHOP

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### WOLK'S KAMERA EXCHANGE

308 Diamond Street

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### GEO. C. DURY COMPANY

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Amarillo

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### MARLOW'S

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### THURMAN RANDLE & CO.

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87 Highland Park Shopping Village

### CARROLL CAMERA CO.

1004 Travis at McKinney

Houston

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Norfolk

Richmond

### MASON CAMERA CO.

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Seattle

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Appleton

Madison

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### IDEAL PHOTO, INC.

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### BERGMANN'S

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### UNIVERSITY PHOTO SHOP

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### BOSTON STORE

Milwaukee, Wisconsin

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### THE DARK ROOM

722 North Milwaukee Street

## CANADA

Montreal, Quebec

### SIMON'S CAMERA EXCHANGE

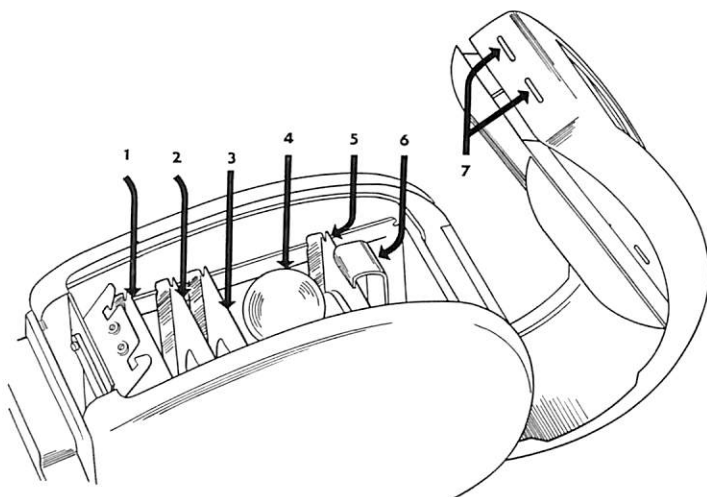
11 Craig Street West

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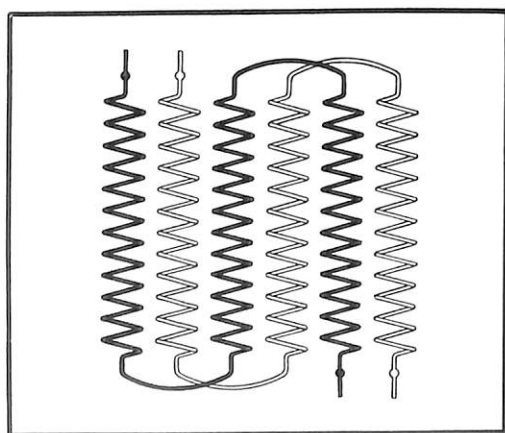
# HOW IT WORKS

## No. 8—Parvo II Projector



- |                |                  |
|----------------|------------------|
| 1. Heat filter | 4. Lamp          |
| 2. Condenser   | 5. Lamp housing  |
| 3. Condenser   | 6. Lamp centerer |
| 7. Lock spring |                  |

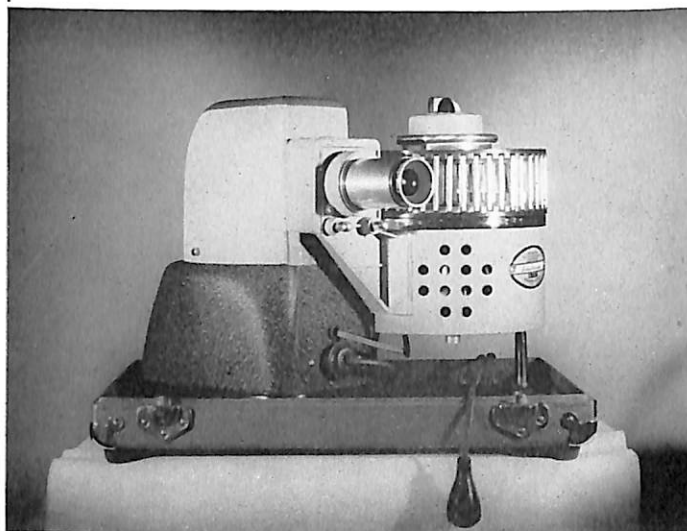
## LAMP CENTERING



Attach slide changer for 5 x 5 cm. slides by pushing it down to the stop.

To check correct centering of lamp, cut a piece of 5 x 5 cm. cardboard, and in its center drill a hole 2 to 3 mm. in diameter. Insert this cardboard into the slide holder and switch on the lamp. If you hold a white paper in front of the lens you will have an image of the lamp filament and also an image of a reflected filament. If the centering is correct, the direct image and the reflected image of the individual coils will appear parallel and at the same distance from each other. If the images of the coils overlap, correction is made by moving the adjusting spring (6) side-wise.

## SELECTROSLIDE PROJECTOR



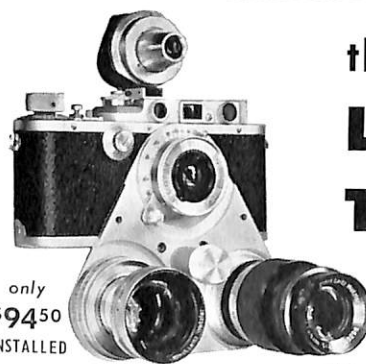
### SELECTROSLIDE AUTOMATIC PROJECTOR,

the perfect companion to the Leica, for those color transparencies. Completely automatic projection, or remote control shows 48 slides in perfect sequence. Can be attached to Leitz VIII-S projector without alteration.

Add titles to your color slides. Write for information.

**SPINDLER & SAUPPE**

2201 Beverly Blvd., Los Angeles 4, Calif.



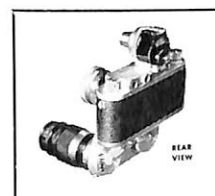
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the NEW H-F  
**LEICA**  
**TURRET**

**IT'S ALL POPULAR!**

**IT'S VERSATILE!**

**IT'S QUICK CHANGE!**



Here is the new tried and proven accessory discriminating Leica users have long awaited. How many times have you missed that never to be duplicated shot because you were fumbling for the right lens? Here is a simple, effective means of changing lenses without the risk and fuss involved in screwing and unscrewing valuable Leica lenses.

The answer is... the new H-F LEICA TURRET. The correct lens is at your fingertips with just a twist of the wrist! Its action is smooth, swift and positive.

The lightweight H-F LEICA TURRET is installed by HABER & FINK to insure correct focus. We do not mar or harm your camera or lens in any way.

The H-F LEICA TURRET can be installed so as to accept either JenFlash or Leitz Flashguns, at an additional charge. DeLuxe Genuine Leather Compartment Case \$27.50

We carry a most complete stock of Leica cameras and accessories.

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Descriptive Literature

**HABER & FINK, INC.**  
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BAday 7-1230

by Rae Gilman Engebretson

there were times when I expected both of us to be shaken into our component parts.

There are many camera fans among the Koreans; however, since the war, supplies have been practically nonexistent, although cameras abound. I was amazed on several occasions to have Koreans point to my camera with appreciative recognition, saying, "Ah—Lei-ka!"

Having ordered a stock-pile of film from the States, I left Korea one Christmas day, on a coastal steamer. Five months later, by way of what the Army so accurately refers to as "the indirect route," I reached New York.

Hongkong, Canton, Macao, Singapore, Java, Bali, on an assortment of small ships; up the Malay Peninsula by train to Bangkok; air to Calcutta, via Rangoon; across India by train, with stops at Agra and New Delhi, to Bombay; onto a ship to Marseilles, via Suez; by train to Paris; hello to England; and then to New York—such was the route along which the Leica and I shot pictures.

It was a wonderful trip, a very wonderful trip. Hongkong was full of contrasts—narrow, crowded alleys, expansive views from The Peak, Occidental and Oriental cultures side by side, the busy harbor with sailing junks and ocean liners; Canton, a touch of China, itself—from teeming sampan life of the river to the shops of Ivory Street, and Blackwood Street, and Pewter and Embroidery and a dozen others; Macao, with its houses painted charming pastel shades by municipal order, and still most famous for gambling and smuggling, despite Chamber of Commerce protests to the contrary; Singapore, city of commerce and trade, its life centered around the harbor, a crossroads on the sea-lanes of Southeast Asia and a gateway at the tip of the Malay Peninsula.

Then, there were hot steamy days along the Java coast in a Dutch freighter stopping to exchange cargoes of cattle, pigs, shells and tobacco at tiny ports where the natives fish off the breakwater with nets, and beyond them, the blue-green misty jungle stretches far away to the volcanic peaks.

On Bali, the native un-dress for which the island is famous was not as prevalent as the travel posters suggest, and among those so attired, only a few percent would attract the model-seeking tourist. But, there was a rare and subtle charm to "the Island Paradise," and I longed to record the haunting music of the island, as well as its people and scenery.

My most strenuous afternoon of picture-taking in Bali started when I noticed a great yelling crowd which suggested a riot, but which turned out to be the start of a funeral procession. I followed doggedly, crossing a high and precarious bamboo bridge, while the funeral palanquin and sarcophagus plunged through the river below with much splashing and shouting to scare off lurking evil spirits. Some time and distance later, we all reached the grounds where an elaborate cremation took place.

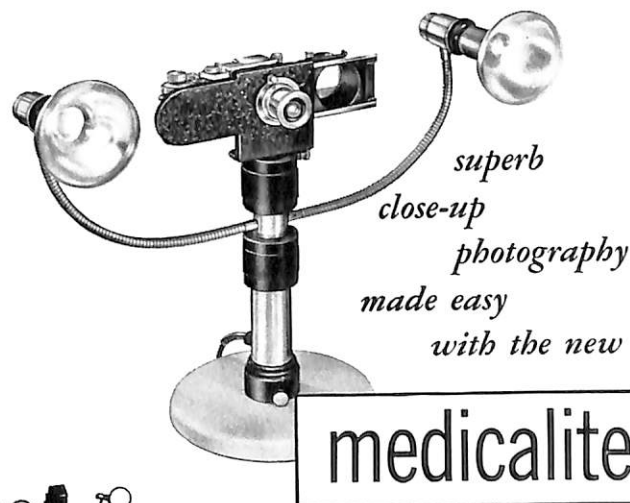
On the beach at Sanoeur, I, like many another visitor, enjoyed the hospitality of the Belgian painter, Le Mayeur, and tried to capture him on film, as he was capturing his lovely Balinese wife and model on canvas.

The trip from Singapore to Bangkok took a week, via railroad, with stops at Kuala Lumpur, with its surprising yellow government and business buildings in slightly Moorish style, and at Penang, that completely out-of-this-tropical-world island of cool breezes, wide, clean streets, and spacious lawns and gardens. Near Penang, I switched to the once-a-week Siamese train, where I happily shared a compartment with a Chinese girl who spoke a little English. She taught me many useful things about Siamese rail travel, such as how to buy hard-boiled eggs at the tiny jungle stations, and how to brush my teeth out of the window of the moving train.

Many rolls of film were exposed on the garrish temples of Bangkok, the busy life of the klongs, a trip up-country to the ruins of an older civilization, visits to see the making of neillo-ware, alligator bags, silk hand-woven cloth, and, after a long search—two elephants!

We had only a few hours in Rangoon, but it was enough to remember forever the great gold spire of the Shwe Dagon temple and its sun-heated marble floor under my bare feet as I gazed up at it. And then India—which is everything ever written or portrayed about it—and much more. I shot pictures furiously, from Calcutta to Bombay, and left feeling more acutely aware than ever of the limitations of such a superficial trip as mine.

From India to New York was a relatively short journey. Film and energy were running low, and that smoky skyscraper skyline never looked more welcome to me.



Now, close-up photography is easy with the new **\$49.50** Mayfair Medicalite. Approved by E. Leitz, Inc., the Medicalite is ideal for medical, laboratory and scientific work. No more bothersome and bulky lighting equipment to worry about. Now you can concentrate on picture taking because the Medicalite is simple to operate. On table top, tripod or hand held, it automatically illuminates what the camera sees. So try this new all-angle, flexible and portable lighting unit today. See for yourself how easily and quickly you can make superb close-up photographs. See the new Medicalite at Willoughby's and other Leica dealers. For further information, write today to

**MAYFAIR MANUFACTURING CO.**  
55 Eckford Street, Brooklyn 22, New York



## NEW FOCOMAT IIA ENLARGER

The Focomat IIA Enlarger is considered the "professional" model Leitz enlarger. The range of enlargement obtainable with automatic focusing extends from 2 to 13 diameters when using the 50mm. lens. When working with the 95mm. lens, the automatic focusing extends from  $1\frac{1}{3}$  to  $4\frac{3}{4}$  diameters as indicated on the right hand side of the enlargement scale.

Enlargements from  $4\frac{3}{4}$  to 6 diameters are obtainable by manual focusing. The notched plates are usable only within the automatic focusing range.

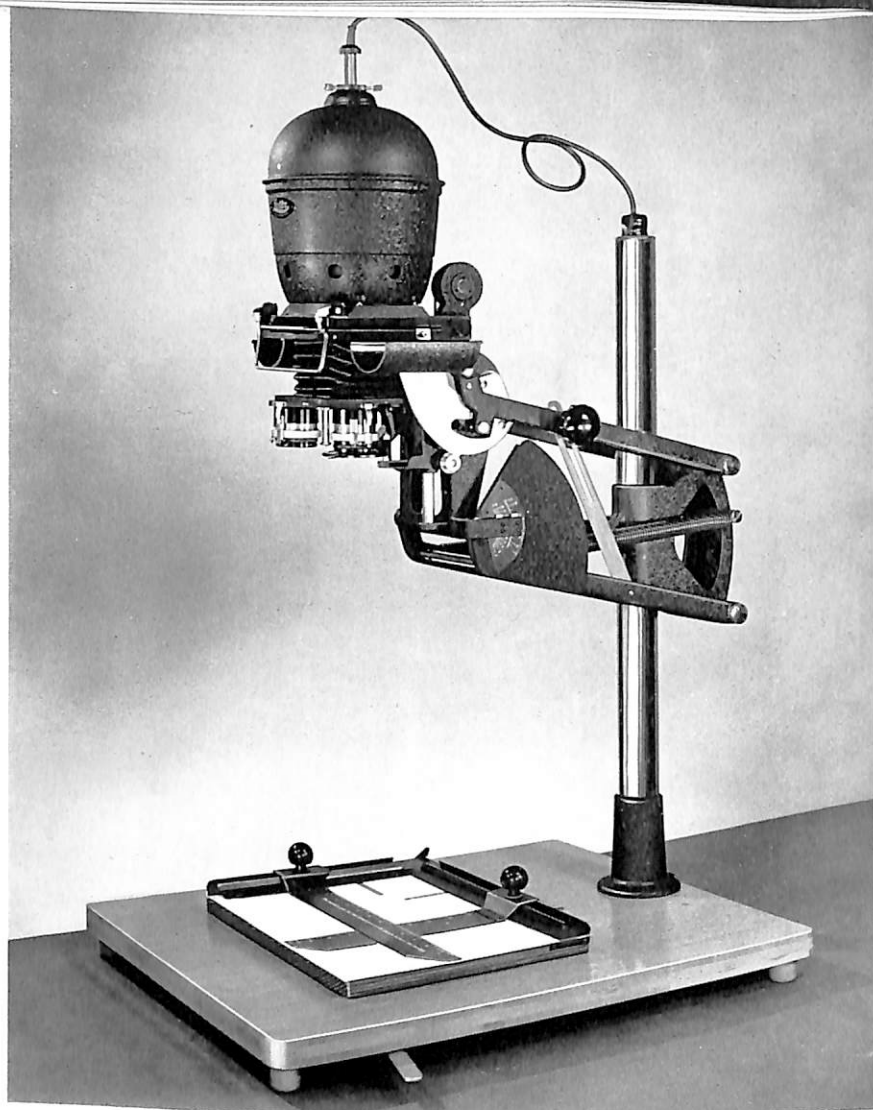
By means of the clamping knob on the right side of the parallelogram movement, the enlarger head can be locked in any desired position.

The Focomat IIA is supplied with two special lenses calibrated in click stop exposure ratios from 1 to 10; the special 50mm. Elmar F:3.5 "FOOLY", and the Focotar 95mm., F:4.5 "FOODE". The regular 50mm. Leica lenses cannot be used with the IIA.

Both lenses are mounted in a new rotating turret which locks into position and is released by pressing the spring catch. Therefore, when the automatic focusing is adjusted, no changes are necessary because of lens interchange. The 95mm. lens focusing adjustment is fixed at the factory and under no circumstances should any further adjustment be made. Adjustment of the 50mm. lens is carried out in the same way as the Focomat Ic.

The 50mm. lens should be used with negative sizes up to 4 x 4 cm. The 95mm. lens covers the larger negative sizes.

It should also be noted that separate index stops are used for each lens; film strips and single negatives are



placed between different hinged glass plates. The Focomat IIA accepts negative sizes up to  $2\frac{1}{4}$ " x  $3\frac{1}{4}$ ".

The price of \$398 includes the 50mm. and 95mm. lenses, and the new 8" x 10" laminated wood easel.

## COLOR COPY WORK WITH THE LEICA

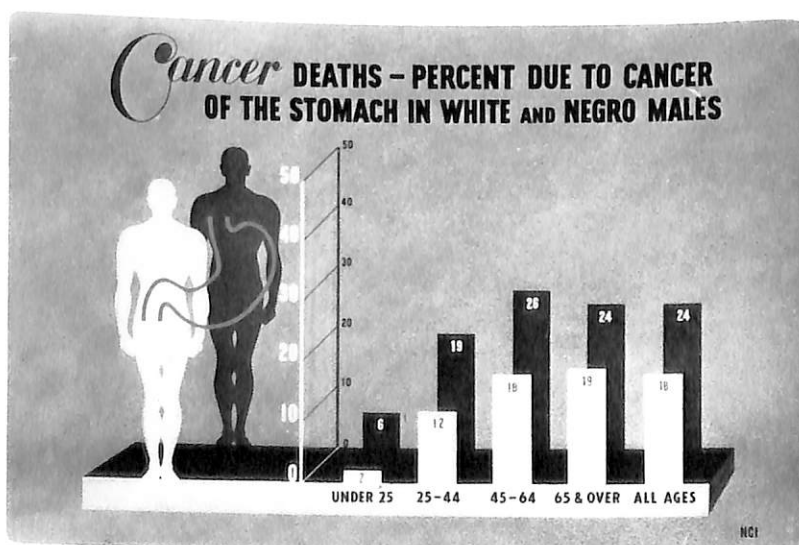
by R. Donald Reed

*Continued from Page 13*

We must therefore shoot as accurately as possible by purely photographic means.

The above instructions may sound somewhat sketchy but it would be rather foolish to attempt to lay down iron-clad rules for color copy work. Every individual set-up of apparatus will have its own peculiarities but with a little patience good results can be secured. As stated before the demand for such work is great and for the dissemination of statistical information alone the writer has produced on order 150 color transparencies from a single piece of art copy. Especially with statistical information audience, reaction to color slides is much more favorable than with black and white slides.

Since the Leica Camera and its accessories have made copy work in color so much easier than with the bulky big cameras of yesterday it is well worth while to consider this field of photography. Even though it is a field somewhat devoid of the glamour and fascination involved in shooting



"terrific" subjects it has proved to be quite a remunerative field of endeavor and, after all, that's quite a good reason for my being a member of the great Leica family.

# LEITZ PANPHOT

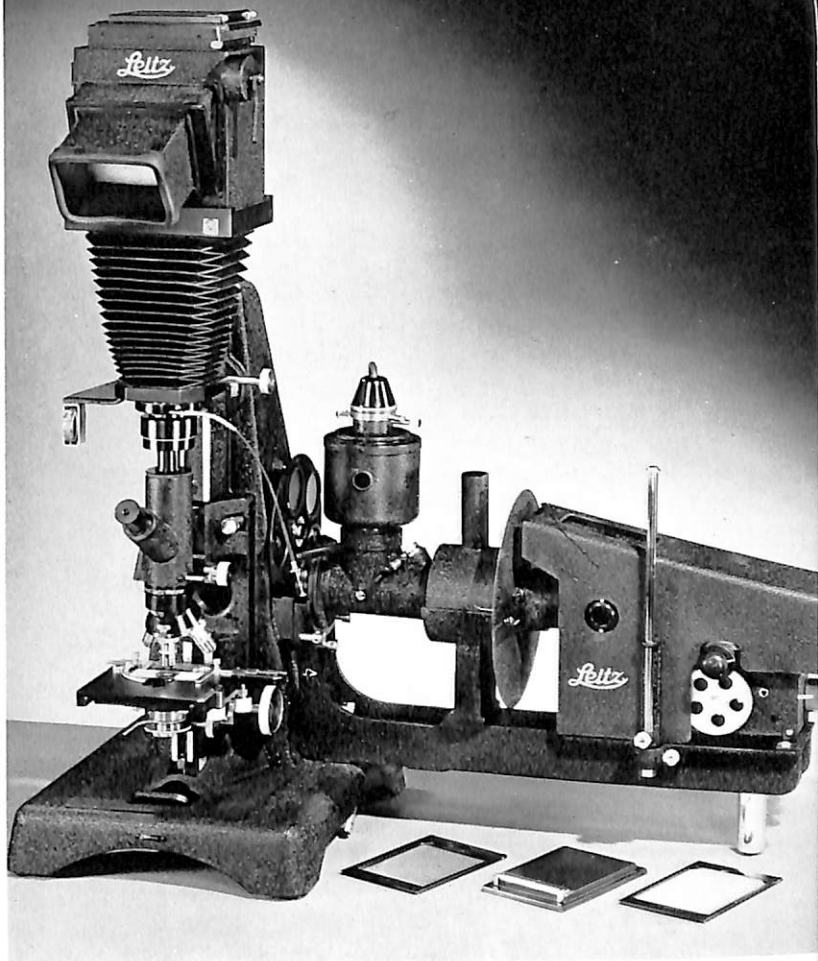
Microscopy and photography are now inseparably linked together in research and practical work. Every microscopist feels a natural desire to permanently record what he sees under the microscope.

The PANPHOT is the ideal combination of research microscope and photomicrographic apparatus designed to meet all requirements.

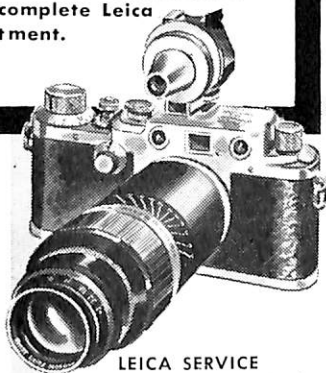
The PANPHOT permits the use of any type of illumination: transmitted light, reflected light, darkfield illumination and polarized light. The camera accommodates  $3\frac{1}{4} \times 4\frac{1}{4}$  plates or cut film for black and white or color work. The addition of a few simple accessories also enables the image to be projected onto a screen in front of the apparatus, so that the picture can be discussed by a group of observers or copied by drawing.

The microscope, camera and light source are built-in and therefore remain permanently aligned, forming a compact, easy-to-operate unit. All controls are within arm's length of the seated user.

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## OUTDOOR COLOR PHOTOGRAPHY

by G. E. Herbert

Continued from Page 11

a good deal higher (on the blue side). If so, Type 'A' Kodachrome and filter Type 'A' should be used for portraits; it will give satisfactory flesh tonal effects on the very delicate side. During bright early mornings or late afternoons, daylight Kodachrome film is best, for Type 'A' Kodachrome gives an orange cast, then.

For all distant scenes and other haze conditions, Type 'A' Kodachrome and filter should be used. Daylight type with a haze filter will give a distinct blue cast, plus haze, under these conditions. Only Type 'A' film with Type 'A' filter can cut haze as much as three to four times more than the Daylight Kodachrome with a haze filter. Remember, though, that color film has an uncanny way of picking up haze often not perceptible to the photographer. Should you find yourself with a roll of daylight film in your camera, and you wish to take a scenic shot, use a Kodak cc14 or cc15 filter, instead of the haze filter. The cc14 requires about  $\frac{1}{2}$  stop more exposure, and the stronger cc15 requires about  $\frac{3}{4}$  of a stop more exposure. These filters will cut haze and take out a bit of the blue cast. They are particularly recommended for scenes where greens and blues are predominant.

Your basic exposures in mid-day bright or hazy-bright sunlight for light-colored, front-lighted subjects are shown in Table I, as follows:

Table I... BASIC EXPOSURES OF KODACHROME DAYLIGHT, OR KODACHROME TYPE A FILM, WITH TYPE A FILTER

Shutter Speeds	F Opening
$\frac{1}{2}$ second	F:12.5
$\frac{1}{30}$ second	F:11
$\frac{1}{40}$ second	F:9
$\frac{1}{60}$ second	F:7
$\frac{1}{100}$ second	F:5.6
$\frac{1}{200}$ second	F:4

In general, for scenes that are side-lighted, increase the exposure by  $\frac{1}{2}$  to  $\frac{3}{4}$  of a stop.

Should your meter reading show an exposure setting giving less exposure than Table I, completely disregard the meter reading, *or under-exposure will result*. Without going into the reason for this too deeply, let's say that this table represents the highest capacity Kodachrome film has to absorb daylight. Use your meter reading if it shows a greater exposure than those in Table I. With dark-colored subjects in bright front-lighted sunlight, you can increase the exposure one full stop.

To obtain good outdoor color portraits, light up the dark shadow areas—especially around the eyes and neck. Reflector boards may be used, but it's difficult to work out the shadows without casting others of less density from the reflectors. Therefore, I highly recommend the use of a Leitz Model VIII synchronized flash unit for simple and excellent outdoor color portraiture.

The procedure to follow is, in effect, the same as in my previous article ("Flash for Color Portraiture," by G. E. Herbert, LEICA PHOTOGRAPHY, Vol. 2, No. 8, P. 4) that

is, to pre-set your rangefinder, flash synchronizer, shutter speed and diaphragm F opening.

I would suggest, for a basic subject, an attractive young lady, attired in a plain, light-colored garment. Have the model use a red-toned lipstick and rouge. As far as the rest of her make-up is concerned, avoid a "made-up" appearance.

Now, in bright sunlight, face the subject with the sun in back or to the side of her, so that she can keep her eyes open without strain. Then, insert a G.E. or Westinghouse No. 5 blue bulb in a midget adapter, setting a distance of five feet or 1.6 meters on the lens. With the diaphragm at F:11, the synchronizer and shutter at the  $\frac{1}{30}$  second mark, and the parallex adjustment on the Imarect Finder to the five foot mark, focus on the subject's eyes until they are in sharp focus.

Then, view through the Imarect Finder, using the different focal lens settings until the most suitable perspective. A light, plain background, such as the sky or beach, is best. You are now all set, and can devote your talents to obtaining the desired expression and pose of the model. As soon as you see the shot, squeeze the shutter or cable release—and that's it!

This method gives a subject contrast of about 3:1 between shadow and highlight.

At a distance greater than five feet, use a No. 22 blue bulb, diaphragm setting F:11, shutter speed  $\frac{1}{30}$ , synchronizer set at  $\frac{1}{30}$ , lens distance set at  $8\frac{1}{2}$  feet (2.5 meters). Use the Imarect Finder to compose this shot, and select the best lens necessary to make a splendid color photograph. In the event that the background is not sky alone, but includes darker or different-colored objects, compensate for this by changing the shutter speed and synchronizer setting to  $\frac{1}{20}$  second to lighten the background.

Usually, if models are faced with the sun at their backs, there is no danger of over-exposing the highlights, while

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brightening up the background, as suggested.

When using Type 'A' Kodachrome with Kodak Type 'A' filter, there is no satisfactory lens shade made to protect your lens properly against sun spots, especially when shooting against the sun. The standard size Kodak filters cannot be used with the Leitz sunshade, and it is imperative to use the proper lensshade with the 90 or 135mm. focal length lenses. The only one I know which gives full protection to both is the Leitz adjustable lens sunshade. Eastman Kodak Company will make up, on special order, 34mm. unmounted color correction filters which can be inserted and used in the Leitz adjustable lens sunshade.

However, this difficulty should be overcome in the near future, when the Leitz Type 'A' filter will be available again.

Another recommendation I make is the use of Leica cassettes; they pay off in scratch-free film. Just remove the Kodachrome from the Kodak cartridge, keeping the film on the Kodak spool. Insert the spool in the Leica cassette in total darkness. After the roll has been exposed and rewound, remove the exposed film on the Kodak spool. Put it back in the Kodak cartridge, and send it in for processing.

By observing these rules, based solely upon my own experiments taken under varied field conditions, I am



sure that you will derive not only a great deal of satisfaction, but also excellent results with your Leica in outdoor flash photography.



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## Questions and Answers

**What causes Newton rings on the negative when enlarging, and how can they be prevented?**

Newton rings are caused by the condenser of the enlarger not being in perfect contact with the entire back of the film, but merely touching it at several points, indicating that the film is not in a true plane. These rings can be avoided by cutting a mask of thin cardboard and laying it over the film so that the condenser presses on the mask and not directly on the film.

A better method is to remove the spring which applies pressure to the condenser and stretch it, thereby increasing pressure of the condenser on the film. This will eliminate new rings, in most cases, by bringing the condenser in absolute contact with the negative.

**How can I take stereoscopic photographs using a Leica without attachments?**

Stereoscopic photographs can be made with any Leica when the object is a stationary one. The method is to make two exposures in quick succession, moving the camera about 2½ inches sideways between exposures. A print is made from each of the resulting negatives, and they are mounted up as a stereoscopic pair in the ordinary way.

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Leica Camera color picture by Helen Manzer, A.P.S.A.